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ABSTRACT

The Adult Competency Education (ACE) Project sought to define basic job-related skills and tasks for the development of instructional programs. The programs included a vocational counseling component to assist students in establishing skills needed to increase employability. In phase 1 the 100 entry-level jobs most frequently occurring in San Mateo County were determined. Information from 100 on-site employee interviews that defined required math and communication skills was used to develop sixty-eight job descriptions composed of twenty to forty "competencies" containing the mathematics or communication skill in a job-related task, performance criterion (instructional objective), and a job-related performance criterion (task). Phase 2 activities used this data in counseling and instruction. Counseling workshops provided opportunity for self-assessment and planning education and career goals. Prior to developing individualized instructional programs, students were assessed individually using task portions of competencies under instructor observation to determine skills to be learned. Phase 3 included project replication at four locations and preparation of a kit of job descriptions, how-to manuals describing methods used to develop them and counseling and instructional systems, and an annotated bibliography. (Appendixes include lists of jobs investigated and jobs for which descriptions were written and a sample ACE competency-based job description. Manuals and job descriptions are also available in ERIC--see Note.) (YLB)

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FINAL REPORT
of
THE ADULT COMPETENCY EDUCATION PROJECT
AN EXPERIMENTAL ADULT BASIC EDUCATION DEMONSTRATION PROJECT

Project Number 03124-4101-4998-76-77

by Joe Cooney, Project Director

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March, 1978

CE 016 818

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J.C.

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NOTE

JOB DESCRIPTION NUMBERS. ACE investigated 100 jobs and developed 68 of them into Competency Based Job Descriptions. The above 68 are numbered according to the original listing. The gaps are in the numbering only. This is a complete list of the ACE Competency Based Job Descriptions.

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INTRODUCTION

The following report attempts to provide a chronicle of the Adult Competency Education (ACE) project detailing its intentions, shortcomings and accomplishments. It offers reflections on the products and processes generated at ACE and on the processes ACE used to achieve them, as well as the nature of experimental/demonstration projects in adult basic education. Hopefully by describing in detail the modifications ACE went through and the difficulties - as well as the accomplishments - the report will provide information for other innovators in adult basic education.

I. NEED FOR THE PROJECT

The San Mateo County Office of Education operates four direct service programs for adults in need of job training, vocational counseling and General Equivalency Diploma preparation. Staff of these programs found that poor readers generally drop out in proportion to the severity of their reading problems. The energies of these students are split between the task of acquiring basic academic skills and family and employment problems. To these students, basic academic skills seem to be a luxury. "Multiplying fractions," "word attack" or "reading comprehension" don't seem to relate to reality.

Program staff also realized that they were hard pressed to justify a basic skills curriculum which might require eighteen months or two years work to master. The only goals to which adult students related were the GED or reading and math related to a vocational goal. There seemed to be no shorter range goals with which to motivate the student.

OVERVIEW OF THE PROJECT

The general goal of the ACE project was to redefine the basic skills in terms of job related tasks and develop instructional programs based on job goals. A vocational counseling component would assist the student in establishing those skills he needed to increase his employability. The student would thus know what skills he needed and why he needed them. The project site was Redwood City, California. The project's duration was two years, 1975 - 77.

WHY ACE?

Joe T.is a 45 year old black man who has a reading problem. He came to ACE for help.

Joe T. has worked 13 years at a local hospital. The first 3 years he was a laundry worker; the last 10 years he's been a security guard.

Joe T. used many hospital words during his initial ACE assessment. The list included words such as "respiratory" and "emergency". Joe T. looked at the list of words and his lip began to quiver, "Seven Hell's Angels with machetes drawn walking in through that door wouldn't cause as much fear in me as that list of words."

When Joe T. was changing jobs at the hospital from laundry worker to guard, his boss showed him the type of incident he might have to write up in one of his reports. The car involved in this practice report was a Studebaker. Joe T. suggested that they select the car next to it to use in the practice report. He did so because the Studebaker emblem on the car was broken and he couldn't copy all of the letters for his report.

Joe T. calls his wife for words in the middle of the night. But when relations aren't smooth, that's not an easy thing for him to do.

Joe T. carries a cardboard list of most used words with him, but "when you sweat a lot... or when you forget and leave your list at home..."

Joe T. copies from words in other reports...

Joe T. sometimes dictates his reports to secretaries to type so that they can spell the words. He uses the excuse that his handwriting isn't very good. But he can't use any one secretary too often or "word will eventually get around."

Joe T. is why ACE.

The project activities are outlined below.

A. Assessing an Aspect of Adult Life: Work.

The ACE Project determined the one hundred entry level jobs most frequently occurring in San Mateo County. It then conducted one hundred on-site, employee interviews to define the math and communication skills required by the jobs. This information was then systematically summarized in the ACE Competency Based Job Descriptions. (See Appendices A and B).

ACE defined "Competency" to include:

- The reason the skill is required on the job (the skill in a job-related task.)
- A measurable Instructional Objective defining the skill (the performance criterion, not job-related).
- A task with which to test a student's ability at the skill (the job-related performance criterion).

B. Counseling Adults to Vocational Focus.

ACE developed and implemented a series of workshop experiences designed to help the adult student:

1. assess himself thoroughly
2. become familiar with the world of work
3. plan educational and career goals
4. prepare for a specific job interview.

C. Implementing Individualized Competency Based Instruction in Job Related Basic Skills.

1. The ACE Competency Based Job Description was used as an assessment tool to establish:
   - what skills the adult already possessed
   - what exact skills that adult needed.

2. ACE developed a packet of materials for each of four hundred Instructional Objectives to which the Competency Based Job Descriptions refer. The packets consist of:
   - a pretest of the skill (10 or 20 items)
   - exercises and references to exercises
   - a posttest of the skill (10 or 20 items)

D. Providing Staff Development in using ACE methods and materials.
   - The ACE staff provided in-service training to teachers and counselors in the four cooperating programs.

II. THE CONCEPTS ON WHICH ACE WAS BASED

The project was based on one hypothesis and five assumptions about adult learning.

A. Hypothesis

If we knew specifically what skills students needed to work, we could plan a basic skills instructional system based on short-term achievable goals. The students for whom we were attempting to design a relevant program come to the Career Preparation Centers with the General Equivalency Diploma as a goal. Usually this is because the GED is seen as required for potential employment, continued employment, or advancement.

For those reading above the 8th or 9th grade level, the GED is a goal which is attainable in a reasonable amount of time. These students require diagnostic testing, information, some counseling and instruction related to the identified deficiencies. They need support through the testing process. They'll make it.

Those reading below the 6th grade level, however, generally require more extensive work in basic reading and math. When they are informed of this - that they need a substantial amount of work in reading and math - they generally begin a basic skills program but soon lose interest and discontinue study. The road to reading seems long, vague and not connected to their daily concerns: work, family and "coping" in general.

Our thinking was that we could use the world of work as the framework for a basic skills curriculum. Described in meaningful, attainable units, the work-related tasks could provide the motivation to hold these students for whom the GED seemed too remote.

B. Assumptions

The five assumptions on which the project was based follow:

1. That the total context of an adult's life - as it impinged on his or her desire and ability to learn - would have to be dealt with. Counseling was integral.

   An approach based on the world of work required the student to make decisions about vocational preferences. He would need guidance in seeing the role of instruction in his life planning. Indeed, we would have to teach life and career planning.

2. The key to the energy a student would need to undertake new learning lay in his and our recogniation of the skills he possessed.

   Anyone who has lived fifteen or twenty years has some skills. His mere existence would indicate, at the minimum, perserverence and endurance. Most adults can do some of the things which schools teach. Many adults who come to ABE programs have developed real strengths in many areas - interpersonal relations, for example. Recognition of the strengths of the adult learner would promote stronger feelings of self-esteem and establish a base on which to build an instructional plan.

   The law from which ABE funding derives recognizes this fact: that many people in our country are skilled and intelligent but unlettered and that they don't, therefore, have full access to their intelligence and the rewards its use can bring.

   One of our intentions was to create a program which helped students to recognize that they had some skills which were valued in our society. We wanted, at the outset, to give them the ability to demonstrate to us, and, more importantly, to themselves that they were learners.

We felt that this would be a cornerstone to their learning in our program.

3. Adults, particularly, want clear objectives established at the start of their learning; they want objectives which can be reached in a reasonable amount of time, and they need, like all learners, closure once learning has been accomplished.

It was our intention to create a program which would respect the adult learner by making our intentions clear. In this way the adult would be encouraged to become not a partner in his education but the chief actor. Short objectives with closure would also enable the learner to witness himself in the act of learning and to gather information about himself as a learner.

4. The basic skills learned for one job are transferrable to many other jobs.

It would probably not matter greatly which job a student committed himself to in our program as long as he felt it was a job he wanted and one which was reasonable. As new learnings occurred and as the student demonstrated to himself that he could accomplish particular tasks, his view of himself and of his potential would change. So, too, would the jobs he might want to prepare for. If we could demonstrate the transferrability of skills between jobs, this change would not be disruptive to his instructional program.

5. Instruction would be individualized.

The adult's need for instruction and willingness to involve himself in a program generally comes about as a result of events which do not occur with any degree of regularity - certainly not sufficient regularity around which to build classes. Also each person's program would be based on his job goal.

III. THE ACTIVITIES OF THE PROJECT

We developed three sets of activities to demonstrate the above hypothesis. The first phase would analyze entry level jobs for the math and communication skills required. The second phase would use the data as a tool in counseling and in instruction. The third phase would incorporate the project's method and materials into four San Mateo County programs.

A. THE FIRST PHASE

To specify the direction in which we hoped to move in the project's first phase, we established the following measurable objectives:

The project will

> "develop at least one hundred competency - defined job descriptions with at least forty San Mateo County employers for semi-skilled and unskilled jobs by the end of the sixth month;
>
> develop career ladder matrices for each of the job descriptions."

1. Establishing the math and communication skills needed for work

a. WHAT WE DID:

In developing the project, we had examined sources of information regarding the academic tasks required on jobs. The Dictionary of Occupational Titles, (DOT) (See Bibliography for this and other works cited.) the bible of job information, supplied a comprehensive description of the job tasks but described the academic skills required by use of two devices: (1) a one-page matrix ranking all jobs on a 0-6 scale of difficulty and speaking to three areas: Reasoning Development, Mathematical Development and Language Development Level, one point on the 0-6 scale indicating sample tasks. For example, the job of Household Appliance Mechanic is described as requiring a General Educational Development level of "3":

* The following is a table explaining the various levels of general educational development.

GENERAL EDUCATIONAL DEVELOPMENT

Level	Reasoning Development	Mathematical Development	Language Development
6	Apply principles of logical or scientific thinking to a wide range of intellectual and practical problems. Deal with nonverbal symbolism (formulas, scientific equations, graphs, musical notes, etc.).	Apply knowledge of advanced mathematical and statistical theorems.	Comprehension and expression of a level to —Report, write, or edit articles for such publications as trade papers, magazines, house organs, technical or scientific journals. —Experience in contacting employers to interest them in services of agency. —Interpret technical manuals as well as drawings and specifications, such as layouts, blueprints, and schematics.
5	Apply common sense understanding to carry out instructions furnished in written, oral, or diagrammatic form. Deal with problems involving several concrete variables in or from standardized situations.	Make arithmetic calculations involving fractions, decimals and percentages.	Comprehension and expression of a level to —File, post, and mail such material as forms, checks, receipts, and bills. —Copy data from one record to another, fill in report forms, and type all work from rough draft or corrected copy. —Interview members of household to obtain such information as age, occupation, and number of children, to be used as data for surveys, or economic studies. —Guide people on tours through historical or public buildings, describing such features as size, value, and points of interest.
4	Apply common sense understanding to carry out detailed but uninvolved written or oral instructions. Deal with problems involving a few concrete variables in or from standardized situations.	Use arithmetic to add, subtract, multiply, and divide whole numbers.	
3	Apply common sense understanding to carry out simple one- or two-step instructions. Deal with standardized situations with occasional or no variables in or from these situations encountered on the job.	Perform simple addition and subtraction, reading and copying of figures, or counting and recording.	Comprehension and expression of a level to —Learn job duties from oral instructions or demonstration. —Write identifying information, such as name and address of customer, weight, number, or type of product, on tags, or slips. —Request orally, or in writing, such supplies as linen, soap, or work materials.

(2) The D.O.T. also speaks to the Specific Vocational Preparation (SVP) which explains in general terms the amounts and kinds of preparation customarily required for the job. The SVP for Household Appliance Mechanic is 7. This tells us that a person desiring to work in that job needs 2 to 4 years' experience. Neither of these methods could supply enough information to make the academic skills needed for a job palpable to a student.

* Page 652, Dictionary of Occupational Titles, 1965

We researched the field and found that Thomas Stitch in Project Realistic for HumRRO[1] was studying the readability of army manuals used by military men in training and on the job. That project identified and studied the use of the job-related printed materials. One of their goals was, however, to identify ways to modify printed materials to make them easier to use. This was not an option available to us or our students. Our students had to learn to use the materials the employer required.

The Adult Performance Level study did not address the academic skills required on jobs.

From our review of the literature we also learned that Arthur DeWhite Smith and Walter Kawula had been involved in a four-year study of Generic Skills[2], to identify those skills common (generic) to seventy-six jobs in Canada. They did numerous site visits and tallied the need for specific skills.

They did not report information regarding why the task was required, simply that it was required on a number of sites. They matched the skills to instructional objectives and summarized their findings regarding each measurable objective under broader categories. For example, activities involving the use of the following skills would be tallied as "Whole Numbers":

UNIT 1 - WHOLE NUMBERS - READ, WRITE, AND COUNT (WHOLE NUMBERS)

OBJECTIVES

1. Count a set of up to 100 objects and state or write the number of objects counted.
2. Identify place value of digits in a given whole number with up to 7 digits.
3. Read a given whole number less than 10 million and write its name in words.
4. Write a whole number less than 10 million given the word name of the number.
5. Write numbers to one million after counting or reading the word name of the number.
6. Arrange a set of whole numbers in ascending or descending order.

---

[1] Determination of Literacy Skill Requirements in Four Military Occupation Specialties, Thomas G. Sticht.

[2] Generic Skills, Arthur D. Smith

While this incredible amount of information regarding skills would be useful to curriculum planners, it did not provide us a systematic method for relating job skills to a basic skills curriculum for students.

Research remained to be done. The first step was to establish which jobs were likely to be in the purview of these students. By crossing Department of Labor job projections for the Bay Area with the quarterly reports from the Employment Development Department and by giving extra weight to jobs likely to be available to our students in industries attempting to effect affirmative action plans, (See Appendix C) we established a list of the hundred most frequently occurring unskilled and semi-skilled jobs in San Mateo County. (See Appendix A).

Once these jobs were identified, we found one site in the county on which the job occurred and on which the job matched the D.O.T. description as precisely as possible. Using an adapted version of the questionnaire developed for the Generic Skills study, we interviewed one person working in each of the jobs. This customarily required an hour and a half of the employee's time and careful questioning to identify which skills were required and to elicit sample tasks which required the application of the skill.

We hoped to be able to identify the needed skills, their frequency and their importance to the overall job but more importantly to collect information on the context in which the skill occurred. We encouraged the interviewers to collect copies of signs, manuals and forms and thus obtain information which would be convincing to students who aspired to the job.

The data collection devices used in the Generic Skills work provided a strong base for our work. We expanded upon their questionnaire to include collection of the context in which the skill was used. Interviewers were trained and sent to the job sites. By the end of the project's sixth month, the hundred interviews had been conducted and we had one hundred thick folders which contained information on the skill used on the jobs as well as sample tasks and material which explained the relevance of the skill on the job.

The folders which resulted from the interviews were fascinating compilations of job-related data which everywhere indicated the need for the basic skills which ABE teachers have always felt their students needed. Moreover, the context in which the skills were used supplied a valuable missing link, the ability to demonstrate to the student a job-related application of the skill. We were on to something! We had two essential ingredients for "competencies"; the skills and the reasons the skills were required in life.

b. WHAT WE LEARNED

- We learned that it's wise to be aware and adaptable when exploring uncharted waters. Columbus had been lucky. You've got to be prepared to deal with whatever you run into. The originally proposed summary of academic skills required on the job would not have done justice to the information we had collected. Developing the format of the Competency Based Job Description took time and staff energy.

- We learned we were on the right track. We had data in quality and quantity which no one had ever collected before. We had data for which any good basic skills instructor would give his eye teeth.

- We did not have a method for synthesizing and arranging this huge, unforeseen amount of data so that it would be useful to us or our students.

- We learned that employers are receptive and eager to participate in giving access to educators to the skills needed in life.

- We learned that collecting empirical data on jobs generated more credible information than that produced by the speculation of educators or employers.

- We learned that it is possible to use a standardized format to collect information about real skills required in life. The organization of the format permits task analysis and matching to instructional objectives without loss of accuracy.

- We learned that jobs vary widely from site to site and within a job title. We would have to use the D.O.T. and the Generic Skills information to insure that our descriptions of the academic tasks of a job would be reliable.

2. Relating the job-required tasks to Instructional Objectives and structuring a curriculum to meet them.

   a. WHAT WE DID

   The need for basic skills on the jobs was apparent from even a glance at one folder of job-related academic information. But how could we structure it to insure that each student's program was a thorough basic skills program? We examined the California frameworks in reading and math and found the measurable objectives not discrete enough for our purposes. We examined Bloom's Taxonomy of Educational Objectives and found the objectives too finely stated. The Generic Skills Taxonomy was best suited to our purpose: it was work-related; the objectives were sufficiently thorough to be useful, but not so thorough as to be unmanageable.

   We then set about analyzing the information from the job interviews and matching it against the four hundred measurably stated Instructional Objectives of our adaptation of the Generic Skills work.

   We had presumed that the job-related tasks could easily be matched to instructional objectives and that test tasks could be written with which to access the student's abilities.

   Following the time line of the proposal, we began to recruit and accept students into the project. As we attempted to instruct the first five or six students, we realized that the ACE Competency Based Job Descriptions and the instructional program predicated by them needed further systematizing and that systematizing the job-related materials and the instructional materials was the only fair use of the wealth of material collected.

We had not anticipated the bulk of material we gathered. All of it was valuable but we needed to:

- explain the relevance of the task to the job
- match the skill required by the task to the appropriate measurable instructional objective
- establish prerequisite skills
- develop a job-related performance indicator with which to assess the student's ability at the skill
- develop an instructional system for each Instructional Objective to which the job descriptions referred.

After analyzing the job information, we agreed to write between twenty and forty "competencies" for each job. An ACE Competency would contain:

- the reason the skill is required on the job (the skill in a job-related task)
- a measurable Instructional Objective defining the skill (the performance criterion, not job-related)
- a task with which to test a student's ability at the skill (the job-related performance criterion).

Prerequisites to the skills described in competencies could be included by reference to - and inclusion of - appropriate Instructional Objectives.

The processes used to achieve this are described in detail in the ACE Job Analysis and Instructional Manual in the ACE Kit.

Thus the ACE Competency Based Job Descriptions could serve as systematic assessment tools at intake. We could test each student, item by item, and help him establish those skills he brought to the academic setting and those skills he needed to accomplish if he were to achieve his goal. Sub-skills were listed as prerequisites to the Instructional Objectives; therefore, the Job Descriptions provided a comprehensive list of skills needed. The Job Descriptions could then be used to indicate a well-defined, thorough, basic skills curriculum.

Viewing the competency as this combination of three elements gave us the ability to structure our curriculum around the 400 Instructional Objectives to which the job descriptions related. Because the job description contained the reason this skill was required, students entered instruction aware of the link between academic learning and on-the-job functioning. We could prepare our curriculum around the Instructional Objectives - the second part of the competency - and set up pretests, exercises and posttests around each of them. Students coming from any job would use the same instructional materials. We could knit into our instructional system those currently existing ABE materials which we knew worked with students. When it was possible, we could relate instructional activities directly to jobs, but we would not need to develop separate instructional materials for each of the competencies on each of the job descriptions. After successfully passing a posttest, the student could be brought back to the third part of the ACE competency - the job-related problem he could not solve at pretesting. On successful completion, the student would pass on to the next competency.

b. <u>WHAT WE LEARNED</u>

- Since we were an individualized program with open entry/open exit, we needed to spell out a list of measurable Instructional Objectives in Beginning Reading. These beginning reading skills could not be keyed to job tasks because they deal with learning the linguistic characteristics of words. The skills themselves are devoid of any job relatedness. Letter blends, for example, carry no meaning and no job relatedness. While the words themselves can be job-related in instruction, the Instructional Objectives would not be work-related.

- The speaking/listening data collected was of uneven quality and therefore, did not provide the base from which to develop credible job-related performance criteria which would prove useful in our instructional setting. After researching the

literature in speaking and listening and finding no suitable base to work from, we elected to delete what information we had. Work remains to be done in speaking and listening. The current work moves glancingly through basic speaking and listening and spends its energy on interpersonal skills. It is our feeling that a curriculum of basic speaking and listening skills - which probably parallels the first phases of the reading comprehension curriculum - should be developed. The Generic Skills work provides a good base, but a thorough data collection would have to be carried out in order to develop job-related performance criteria.

- Projects attempting to work in a dramatically different way need to be staffed by exceptional people who are flexible and willing to work "out of classification."

B. THE SECOND PHASE

In order to specify the direction in which we hoped to move in the project's second phase, we had established the following measurable objectives:

The project will

"have enrolled and be the sponsor of at least eleven hours of instruction per month for at least one hundred students by the thirteenth month;

have used the employer-developed, competency-defined job descriptions to assist the student in goal setting and goal specification; to develop a day-to-day learning program for each of the one hundred students by the thirteenth month;

establish an individualized basic skills learning program and a career learning program for each of the one hundred students by the thirteenth month;

assist eighty percent of the students enrolled to meet the competencies as listed on at least one competency - defined job description by the nineteenth month;

demonstrate that project students' gains in reading and mathematics are significantly greater per hour of instruction than are the gains of ABE students in another individualized setting, and in reading and mathematics classes;

provide eleven hundred hours of personal/vocational one-to-one and small group counseling;

provide seven hundred student hours of small-group instruction in job-seeking skills."

The following sections will address (1) recruitment, (2) the use of the job descriptions as aids in assisting students to set goals, and the development of the career learning program, (3) the development of the individualized Basic Skills Instructional Program, (4) our attempt to demonstrate a significant increase in the learning outcomes of our students as compared to a classroom control group, and (5) a description of the ACE students.

1. Recruitment

a. WHAT WE DID:

As the second phase of the project approached, the project director and the counselor visited all the schools and agencies in south and central San Mateo county to inform them of the project and its willingness to work with students to set up job related basic skills instructional programs. This work was extensive, particularly on the part of the counselor, and included such diverse agencies as the regular adult schools, The Career Preparation Centers, the Armed Forces recruiters, the ROP, the Employment Development Department and other Department of Labor Programs, the continuation schools, the Department of Rehabilitation and Special Education programs including a sheltered workshop. The students began to trickle in. At first many referrals were inappropriate: they wanted job training immediately or they were not interested in even beginning to think about jobs. The schools seemed anxious to hold on to their students and referred to us students deemed impossible to work with in small basic skills classes.

We decided on a more direct approach. We ran radio ads on three Bay Area radio stations, developed flyers and distributed them to laundromats and supermarket bulletin boards, and had articles printed in small local newspapers. These efforts did produce students for the program, but not in proportion to the energy they required. The radio spots generated calls from many distant parts of the Bay Area, and even after finding an appropriate adult school referral, we could never be sure the potential students linked up with a source of instruction. Slowly we did build a group of students who attended regularly. Overall in our thirteen months of instruction, eighty-nine students came to us by referral or on their own. Approximately thirty of these were inappropriate referrals and fifty-four stayed with us long enough to go through the initial counseling activities and to enter instruction.

b. <u>WHAT WE LEARNED</u>

- ABE students are full-time adults. They seek instruction in response to some event in their lives which makes them recognize their need. This event can be a crisis event - which forces them to deal with their lack of skills - or an event which solves some of their daily concerns and permits them to relax and put energy on the development of basic skills. These events know no semesters. They happen all year round.

- When we examine the kinds of students ACE recruited and retained, we see that ACE attracted persons who either had been to ABE classes unsuccessfully or who would probably never have been brave enough to enroll for basic skills in a classroom setting. Many of our students would not be comfortable addressing their basic skill needs in a group. They would rather drop altogether and return to relying on their own familiar coping skills which had aided them this far.

2. Use of the ACE Competency Based Job Descriptions for Student Goal Setting and the Development of the Career Learning Program.

a. WHAT WE DID

Since we saw the student as responsible for indicating his own program, we needed to be sure he had a great deal of information about himself and the world of work, prior to making a vocational decision and relating his instructional program to it. Initially we had been counseling all students individually. The guidance portion of vocational counseling was being repeated for each student. The project counselor was developing time-consuming oral systems to avoid using printed vocational interest and aptitude tests written for fairly high reading levels. The counselor reexamined her use of time and developed a more efficient series of intake interviews which brought the student to, at the least, a tentative vocational focus - focus sufficient to suggest which job descriptions could provide indicators of the academic skills needed. Except for individual intake sessions, the guidance portion of the vocational counseling would have to be presented in group workshops to insure that students had the opportunity to go through the exercises and to minimize the amount of time the counselor spent intaking students individually.

Instructional materials and methods were at hand but not fully keyed to the Instructional Objectives.

The project counselor developed a series of intake counseling sessions. These are detailed in the first portion ACE Counseling Manual included in the ACE Kit.* Fundamentally they seek to help the student become aware of himself, his interests and abilities and to help make him aware of the kinds of jobs which exist and the requirements and expectations of those jobs. An important function of these early sessions is to help the student look at himself, his schooling history, and his current life and to work on clarifying his values and what he is doing to achieve the things he wants. This is done to elicit commitment to a specific plan of improvement.

*Available in microfiche through SMERC, San Mateo County Office of Education

The ACE Job Descriptions were used in this phase to help our students get a "feel" for what people do on different jobs. Although the job descriptions list only the academic skills needed for the job, the competencies include a great deal of specific information about what it is like to work in the job. The Job Descriptions also include The Dictionary of Occupational Titles' description of the job and other information regarding the job.

By examining the Job Descriptions, a student could "shop" through a cluster of jobs and get a rough impression of the level of skills demanded.

The counselor reports that one of the most exciting counseling uses of the Job Description was as a "script" to support the student in fantasizing himself in the job. The Job Descriptions also put specific information regarding many jobs at her finger tips.

Most importantly, however, they provided a constant tie-in between what the student wanted - to prepare himself better for the world of work - and what he would have to learn in order to get and hold that job successfully - basic skills.

The initial counseling sessions continued until the student was clear about the job he wanted. This clarity made accessible to the instructional staff the energy which would enable the student to address the basic skills. When the counselor felt that this point had been reached, she would turn the student over to the instructional staff and schedule the student to attend her group vocational counseling workshops.

The project counselor developed a series of sixteen group vocational counseling experiences. These are detailed in the second portion of the ACE Counseling Manual and included in the ACE Kit.

To illustrate the kinds of activities encompassed in these workshops, a portion of the "Table of Contents" to the manual is copied below.

COUNSELING WORKSHOPS

Self Assessment
1. Graphic Interviews
2. Vocabulary Building
3. Skills Identification
4. Data-People-Things Exercise
5. Ideal Job Exercise

Occupational Exploration
1. Introduction to Information Gathering about Jobs.
2. Role-Playing Informational Interview Process
3. Occupational Cluster Exploration
4a. Feedback on Informational Interviews
4b. Relating of Job Codes to Student Codes

Planning of Educational and Career Ladders for Job Goals

Preparing for a Specific Job Interview
1. Job Preparation Exercise and Film
2. Preparing Application Form and Resume Exercises
3. Job Interview Book and Film Exercises
4. Presentation by Personnel Experts to Address Students' Job-Getting Concerns
5. Role-Playing Interviews for Students' Own Job Goals

b. WHAT WE LEARNED

- Aside from helping the student work with the counselor and other students to learn about jobs and to define his own skills, interests and abilities further, group experiences brought a number of other benefits to the program. Generally instruction was individualized. In contrast, the group workshops provided students a change to share language, accomplishment and feelings with other adults. Everyone could shine at something frequently enough to make it a reaffirming learning experience.

- A great deal of cross-age counseling happened. Older members of the group would share blunt advice from a heartfelt place with younger students in a way most counselors or teachers would not. Younger

students would bring their fresh points of view and enthusiasm to this new kind of learning situation. Both groups in concert had a great deal of information about jobs and about basic skills. Somehow it was more meaningful and immediate when they said it to one another.

- Because of the level of reading ability of most of our students, the counselor had to teach the language necessary for thinking about jobs. A great deal of language instruction happened at ACE which was not related to measurable objectives. But it was learned - because it provided a tool the students knew they needed.

- Often, the counselor witnessed one of our very basic (initial stages of phonics) students volunteering to read aloud a paragraph introducing a job interview script, doing it fairly well and demonstrating that he understood the concepts explained. We saw that in a charged atmosphere ABE students will demonstrate capabilities beyond expectations.

3. The Development of the Individualized Basic Skills Instructional Management System.

a. WHAT WE DID

Once the student had been through initial counseling, the project instructor would sit with the student for an assessment session. The tasks supplied as the third portion of the ACE competency provided the tests which the student would attempt (while the instructor observed). The Job Descriptions provided the instructor with the relationship between the job and the academic task at hand. She would explain the need for the skill and supply the student with the test-task. The student and the instructor would discuss the student's accomplishment or lack of accomplishment. If the student could not accomplish the task, the instructor would move to the less demanding skills listed on the Job Description as prerequisites. This procedure, although time-consuming, proved very valuable. It provided the instructor and the student with concrete examples of the skills the students could

demonstrate. These were then checked off on the Student Competency Profile. (See Appendix E) Because the skills are stated in fine terms, most students could demonstrate some of the skills needed for the job. Finding that he could demonstrate at least a small portion of the skills needed, the student would be less intimidated by the skills he could not yet demonstrate.

Since the Job Descriptions are listed in a less-difficult-to-more-difficult hierarchy, the instructor could stop the process when she had sufficient information regarding the student's math and communication skills to develop a learning program. Once the student had mastered those skills, he and the instructor would return to the job description to provide job-related closure to the skills mastery.

When the instructor and student knew what skills were to be addressed, the skills were indicated on the Student Competency Profile. The least demanding skills in math and reading were the first to be tackled.

The instructor would select the appropriate Student Assignment Cards (See sample included in Appendix F) and indicate which of the skills listed was to be worked on. The Student Assignment Cards provided a statement of the measurable objective the student would be attempting to achieve, the date, and the criteria for demonstrating the skill. It also provided space for the day-to-day management of the student's work program.

The Student Competency Profile is a simple tool which permits the instructor to control and review each student's program without a complex reporting system and undue paperwork.

The core of the ACE Instructional System is a taxonomy of over 400 measurably stated Instructional Objectives. The Job Descriptions relate the job tasks to these Instructional Objectives.

The completed Student Competency Profile lists the codes for the Instructional Objectives needed for a job. The Student Assignment Card

focusses on the one or two skills being worked on at one time. The instructional materials were assembled around the Instructional Objectives of the Taxonomy and organized in a four-drawer file. For each Instructional Objective the instructional staff had selected or developed pretests, exercises and posttests. These were coded to match the ACE taxonomy, duplicated and filed.

Thus the actual instructional materials for a particular skill were not job-related and could be used with students working to acquire the skills of diverse jobs. However, the student saw the skill itself as job-related. And if he had to work on the skill for a lengthy period and forgot why he needed it, the instructional staff could flip back in his folder, locate the job description and review with him how he might use the skill on the job.

Through the use of this Basic Skills Instructional Management System, ACE could provide and control individualized instruction to a group of students working on different levels of different skills for different reasons at one time.

b. <u>WHAT WE LEARNED</u>

- With a great deal of organizational work, it was possible to set up a group instructional situation in which each student could work on job-related, meaningful skills.

- Individualized instruction can be carried too far. We needed group enthusiasm and interaction in order to teach the beginning reading skills. The objectives were measurably stated, but the instruction was accomplished best in a group. We also wanted to provide an opportunity for a student to demonstrate his new competence to peers for the validation it provided.

- We also held brief workshops around specific skills which most students needed, such as map reading and using the telephone book. These generally began with a short instructional introduction and took an experiential or game approach. Like the counseling workshops, they were lively and generated enthusiasm.

4. ACE's Attempt to Demonstrate Significantly Greater Gains in Reading and Mathematics than other ABE Settings.

a. WHAT WE DID

The ACE project proposed that our students' growth in reading and math would be compared with the growth of ABE students in both a regular ABE classroom setting and an individualized setting. We intended to meet a statistical design and to demonstrate significantly greater growth on the part of our students.

Early in the project, ACE staff established the evaluation plan. We would use as control groups ABE students who entered the individualized Career Preparation Center-North, twenty miles from our site. We set out to locate an ABE class which addressed both reading and math and which enrolled and retained a number of students comparable to the one hundred we planned to put into instruction in the project. An extensive search located a large number of ABE students attending a variety of classes at San Jose's Metropolitan Adult Education Program's Sacred Heart Adult School. Although cooperation with us meant work and the inevitable complications, Metropolitan's administrators shared our enthusiasm and helped us elicit the cooperation of their classroom teachers.

The classroom control population was largely Spanish-speaking, but that factor could be controlled if the number in the group were large enough. The earliest indication that we would not be able to carry out our idealistic evaluation design came when we made known the complexity of our plan to the Career Preparation Center-North staff.

We asked that they collect a great deal of demographic data on control students. In order to parallel the groups, we would need to collect socio-economic data, race and other factors which CPC-North did not customarily collect and which they were not willing to collect unless it could be demonstrated to all the involved students that the data collection could improve the quality of instruction they would receive.

We asked that they use the Reading Progress Scales (RPS) as a screening device and administer the appropriate level of the Adult Basic Learning Exam (ABLE) to those students who fell in certain range on the RPS. Since they were an individualized center focusing on the GED, they saw this process as cumbersome and one which separated off some students from others. The RPS was brief and might add to their knowledge of a student, but the ABLE was a reading test similar to what the schools perpetually used and represented exactly the opposite image from what CPC-North wanted to communicate to enrolling students - it was lengthy, dry and generated grade scores - not of a great deal of relevance to returning students.

CPC-North staff were interested in supporting ACE and wanted to use the ideas we were developing, but they felt cooperation in our plan would seriously impair their ability to meet the needs of their students.

As a result, the individualized portion of our evaluation plan was given up. In the classroom portion of our evaluation, we had planned to gather pre-and posttests during two periods - the first to smooth out the system and the second to generate the data which would provide the base for our evaluation.

As the first phase came to a close, it was obvious that the ACE project had not enrolled sufficient students to make the effort worthwhile. It was cancelled. We geared up for the second phase by working with Metropolitan Adult Education Program teachers to insure that the tests would be administered in the same way in our project and in their classes. We collected demographic data on the students; we pretested and three months later we posttested. All in all, ACE had only generated usable data on sixteen students; Metropolitan Adult Education Program generated data on twenty-one. (See Appendix G for a more detailed evaluation report.)

b. WHAT WE LEARNED

- Most standard evaluation designs developed for classes of elementary and secondary students do not fit adult basic education due to the wide variability of the adult population.

- Evaluation designs appropriate to adult education and adult basic education have yet to be generated. The field study approach, the case study method and descriptive statistical methods, while not held in high regard by researchers, are probably the avenues which will generate appropriate adult education evaluation models.

C. THE THIRD PHASE

In order to specify the direction in which we hoped to move in the project's third phase, we had established the following measurable objectives:

" provide twenty hours of inservice training to each of the instructional staffs of the four cooperating programs;

provide twenty hours of supervision of the cooperating programs' use of the prescribed learning activities with students;

develop a minimum of one team comprised of a counselor and a reading instructor on the staffs of each of the cooperating programs who can --

use the employer-developed, competency-defined job descriptions to assist the student in goal setting and to develop specific day-to-day learning programs; establish a basic skills learning program and a career preparation program for their student;

provide ninety-six hours of consultation and supervision to each of the cooperating programs as they adopt the methods and materials developed by the project.

demonstrate the usefulness of the project publications by mailing to three random groups of San Mateo County educators:

1. Six randomly selected competency based job descriptions.
2. The packet delineating job skills for the ABE student.
3. The packet assisting others to define job competencies.

They will be asked to judge the usefulness of the items. Sixty-six percent of the respondents will find the materials 'very useful'."

The objectives of this phase of the ACE were, then, to address the dissemination of the project results. In developing the project, we had examined the problems of dissemination of results from federally funded projects. At that time, with the exception of ERIC, national clearinghouses were mostly over-extended local efforts. None could promise national delivery of the specifics of how to replicate a project or aspects of it. We hoped to avoid a great deal of mailing of descriptive data about the project around the country, feeling that material of that sort, even when it gets into the hands of the appropriate educator, is of short-term interest only since it contains few specifics. We therefore planned a two pronged approach:

1. We would attempt to install the project's system in the two Career Preparation Centers, the Regional Occupational Program (ROP) and the Youth Employment Program (YEP) (at that time called the Neighborhood Youth Corps) to the extent that their goals and organizational designs would permit.

2. We would prepare a kit of the Job Descriptions and, more importantly, spell out in how-to manuals the methods we used to develop the Job Descriptions and the counseling and instructional systems we used around the job descriptions with students.

The actual dissemination activities of ACE are most comprehensively understood when described under four headings: 1-Project Replication, 2-Paper Dissemination, 3-Presentations and 4-The ACE Kit. Discussion addressing these headings follows:

1. PROJECT REPLICATION

a. WHAT WE DID

As the project worked with students in its second phase, ACE staff made representations to the Career Preparation Centers Staffs, the ROP staff and the counselors of YEP. These laid the base for the inservice sessions which would follow.

During the project's third phase, a number of inservice sessions detailing the project's instructional and counseling systems were held with the Career Preparation Center Staffs. The Job Descriptions themselves generated a great deal of interest. The instructional component was seen as perhaps too complex when considered as a working system by programs whose primary goal was to work with those students who were close to the GED. The counseling model on the other hand addressed the needs of most of the CPC students. The CPC's intended to hire full-time counselors but had not done so during most of ACE's Third Phase. The ACE Job Descriptions and instructional materials are in these centers, the staffs have been trained to use them, and slowly pieces of ACE are being reexamined, adapted and incorporated into their working systems. The entire ACE model - defining a basic skills curriculum on the Job Descriptions and relying on the focus brought about through vocational counseling - is not replicated wholly in any of these settings.

The Counseling staff of the ROP received extensive inservice in the use of the ACE counseling model. In addition, near the start of this phase of the project, the ACE instructor left the project to join the staff of the ROP tutoring center, an individualized basic skills setting which provides support to ROP students. She installed the ACE instructional materials and used them with students there, but the counseling/instructional approach, a main feature of ACE, has not been implemented there.

The Youth Employment Program had no instructional component. YEP staff were interested in the counseling techniques ACE developed and were provided inservice in their use. As the CETA youth monies extend the kinds of services YEP can provide, the program is examining seriously their own adaptation of the ACE counseling/instructional approach.

Perhaps the most thorough replication of ACE has come about as a by-product of our project activities. It tells us something about dissemination of experimental concepts.

In our search for a large number of ABE students in one setting, the project had come in contact with the Metropolitan Adult Education Program (MAEP) in San Jose. From the start, they admired the concepts of the project and were ready, they said, for the ACE Job Descriptions and inservice in their use as ACE was first beginning. In return for their help with the control group, ACE promised to provide at least one presentation detailing how ACE worked when the project was in the staff development phase.

Esther Stone, ABE Supervisor at MAEP, arranged an ACE presentation for all the MAEP basic skills teachers. She arranged that the people most likely to use the system be there. A number of the teachers had been involved in competency based education training and were adapting the concepts to their classrooms. They had recognized the need for relevance in the adult school setting and were willing to adapt to meet the students needs. Some of them were individualizing. Some were working more closely with counselors than teachers in traditional adult school settings. As a result of this presentation, an even more detailed ACE demonstration was arranged for a small group of counselors and instructors who hoped to implement or adapt ACE's major components. The ACE counselor provided an inservice session on the counseling model.

One teacher decided to implement the system, to take on the task of setting it up herself and involve others as needed. She discussed ACE individually with former ACE staff for approximately thirty hours.

After a great deal of work on her part within her organization, alone and with former ACE staff, she opened in February of 1978 what is the most accurate replication of ACE, with approximately forty students. The instructor herself is currently providing the vocational counseling necessary and is assisted in the instructional component by an aide. She is a committed ABE instructor, experienced in individualized instruction. (See Appendix H). Two further replications are in progress in San Jose, California.

b. WHAT WE LEARNED

- The ACE program model had built into it two major constraints to ready replication. The first constraint is that ABE settings generally provide only minimal counseling. In addition, few of the counselors used group processes. The ACE model insisted that the counselor was a prime source of the motivation necessary to eliciting commitment to a basic skills program and therefore provided the counselor time to work in this way. ACE counseling taught students that life planning was possible, that change did not have to be chaotic, that they could break down their dreams into palpable, plausible tasks at which they would succeed.

  This change in thinking cannot be achieved with only a few hours of contact with a counselor. It cannot efficiently be achieved in one-to-one counseling. But few ABE counselors are accustomed to leading small groups of students in any activity, much less the "learning to learn" exercises ACE had designed.

  The second constraint to ready replication is that few teachers plan truly individualized programs for their students. Funding doesn't encourage it. Administrators don't think it looks like instruction. It requires that the teacher see himself as a

learning manager (not the source of learning), unfortunately still a novel concept. It requires an organizational learning management system which appears complex and cumbersome and causes the teacher to feel that he is putting energy on forms and paperwork and not on the student.

Though they might desire it, few adult schools in California could adopt the ACE counseling and instructional systems unless they were first willing to reexamine instructional assumptions and begin to make changes in the delivery systems.

- Educators among others have a natural resistence to new systems--especially if they do not develop them themselves. ACE should have been set in the context of an existing program project. To succeed fully in its replication goals, the project should have been written for four or five years. The CPC staffs should have been expanded to include time for all staff members to be involved in the development and ownership of the project's concepts and systems.

2. PAPER DISSEMINATION

a. WHAT WE DID

Although we had planned to avoid the large scale distribution of descriptive project materials, being a federally funded project, we were responsible for circulating the project abstract and other program materials.

As the first group of Competency Based Job Descriptions was produced, however, we realized that no one had ever collected the

academic job-related data, included in them the reasons the skill was required to the extent we had; nor had anyone tied the "competencies", which were being generated helter skelter across the country, to measurable instructional objectives.

We realized that in and of themselves the Job Descriptions were useful to educators. Personnel people began to request them. Ruth Nickse included them as part of the testing packages for the Central New York State External High School Degree Program. (See Bibliography). Vocational counselors wanted to include them in their career libraries. Curriculum planners attempting to meet the Back to Basics movement wanted them.

ACE staff felt and continue to feel that if the "Competency Based Education" movement does not return to the reliance on demonstrable measurable objectives on which it was founded, it will become another "Coping Skills" fad and fail to move education closer to the accountability which the public and good sense is demanding.

To repond to these requests and to demonstrate how measurability can be built in to competency based education, ACE developed a sample set of Job Descriptions, included a flyer describing the program, (See Appendix I) and mailed them to all requestors. Approximately 1600 of these sample sets were sent.

The project did not seek to encourage this paper dissemination to any great extent. We solicited nationwide publicity in the Adult Education Clearinghouse Newsletter (circulation 800) and Adult Leadership only. Unsolicited reports of the project were printed in The Bulletin of the National Center for Educational Brokering and the We Can Newsletter.

As the Job Descriptions were prepared, they were offered for sale at $.50 each to cover mailing and clerical support. Since the Spring of 1976 approximately 9580 have been sold, primarily in California but also in thirty other states and ten foreign countries.

In June the Bulletin of the National Center for Educational Brokering ran a five-line blurb advising its readers that information on "A Series of Competency Based Job Descriptions" was available from ACE. In three months the project received 127 requests for information. The size of the response, while dramatic, is not the major point. The diversity of the requestors is. The table below lists the kinds of institutions which requested information as ascertained from their stationery. If many of these educators are beginning to unite in a continuing education network and if they impact on the coming Lifelong Learning legislation, we can surmise the direction that legislation will take. These educators want to know what exact skills jobs require!

22	Universities and Colleges
15	Community Colleges
12	Business/Industry
11	Libraries
10	Special Education Programs
9	Adult/Continuing Education
7	Unified School Districts
6	Clearinghouses (Consortia)
5	Adult Basic Education
4	Individuals
4	Comprehensive Employment and Training Act
4	Career Education
3	Technical Schools
3	Hospitals
2	Curriculum Developers
2	Vocational Education
2	Women's Groups
1	Bilingual Educators
1	Veterans Hospitals
1	Mental Health Education Services
1	Human Resources Agencies
1	Community Agencies
1	Title I Programs

b. WHAT WE LEARNED

- Educators need to know specifically what tasks are required on jobs - particularly in math and communication - and they are actively seeking this information.

- The task analysis approach used in the development of the Job Descriptions had generated useful data for a wide variety of educators in addition to ABE: bilingual teachers, special education teachers, vocational counselors.

3. PRESENTATIONS

a. WHAT WE DID

Presentations explaining the goals and methods of the ACE project were made at six California State Department of Education Adult Education Directors' meetings across the state, at six San Mateo County meetings of vocational and special education and for the San Mateo County Board of Education. Project staff explained the materials and the methods of the project to eighty-four visitors to the site--individuals and small groups. The entire staff also made a series of presentations and provided a "walk-through" of the project's methods to twenty-four California adult educators who were involved in 309 projects.

Project staff presented at the following conferences: The Californis Adult Competency Education Conference in Burlingame; The AEA/NAPCAE Conference in New York, New York; The AEA/ABE Conference in Phoenix, Arizona and at the National Workshop on Competency Based Adult Vocational Instruction in Columbus, Ohio.

Since the completion of the project, presentations have been made to the Metropolitan Adult Education Program in San Jose, The Oakland Adult Day School and for Special Educators of adults in San Mateo County.

In order to provide a personalized explanation of the projects' products and processes, Penny Pickels, an ACE instructional aide, developed a synchronized slide/tape presentation which was customarily included in the ACE presentation. Sample project materials were distributed at all presentations.

The San Mateo County CETA Employment Training Units have been provided with three three-hour inservice sessions in the vocational counseling techniques developed and used by Linda Kurtz, the ACE project counselor. Mrs. Janice Becker, formerly the ACE instructor, has provided the Employment Training Units with inservice in the use of the ACE Job Description as a job-related assessment device. Each of the Employment Training Units has its own copy of the ACE Kit described below and uses the Job Description as a source of job information and as the basis for referral to ABE instruction. The Employment Training Units have adopted a competency based approach to training. The ACE Job Descriptions are being used as assessments to indicate a client's academic readiness for training and/or to specify a job-related basic skills instructional program.

b. WHAT WE LEARNED

- In general, the presentations which drew the most response and seemed the most fruitful were those given for audiences composed of classroom teachers/counselors or teams consisting of teachers or counselors and administrators. Dissemination should be directed to the real user.

4. THE ACE KIT

a. WHAT WE DID

As promised in the original proposal, the project staff, Michael Malone, Penny Pickels and Linda Kurtz, developed "how-to" manuals explaining the processes which were used to develop the Job Descriptions and the vocational counseling and instructional systems developed to capitalize on the information contained in them.

The seventy Job Descriptions, these manuals and all the forms used in the Basic Skills Management System as well as an annotated bibliography of materials used at ACE have been put together in the ACE Kit.

The project was granted an extension of two months to accomplish the following:

- duplicate and circulate ACE Kits to the Regional Program Officers responsible for Adult Education in the ten HEW-OE Regional Offices and the National Adult Educational Clearinghouses and

- enter the ACE Kit into the ERIC Clearinghouse at the Center for Vocational Education at Ohio State University, Columbus, Ohio.

The entire kit has been put on microfiche and is available from The San Mateo Education Resource Center, 333 Main Street, Redwood City, California 94063.

b. WHAT WE LEARNED

While the materials have been developed with the eventual user in mind, no readily accessibly dissemination system can get paper copies into the hands of the users efficiently and inexpensively.

IV PROJECT OUTCOMES

A. Task Analysis

The ACE project analyzed 70 jobs based on on-site observations to establish the math and communication skills required on the jobs. These Competency Based Job Descriptions offer information not available before.

B. Job related tasks matched to instructional objectives

The ACE project analyzed the job related tasks and matched them to the instructional objectives required to perform them, thus providing job-related competencies. ACE redefined "competency" to include 1) a real world task, 2) reference to a measurable instructional objective, 3) a real world test task.

C. Use of the Job Descriptions

The Job Descriptions were used in support of a counseling/instructional approach to help a student clarify his goals and establish exactly what instructional objectives he needed to work on.

1. The Job Descriptions and Counseling

- The project counselor used the Job Descriptions to assist the student in career exploration.
- She used the Job Descriptions to explain why particular skills would be used in jobs and in life. In this process, she helped students examine specifically the academic skills they would need and to understand how they related to jobs.
- The Job Descriptions provided a reminder of the range of skills a person needs on a job and served to enable the counselor to offer specific examples.
- The hierarchical arrangement of the skills permitted the counselor to explain to students the increasing level of complexity of tasks.

- The Job Descriptions provided a constant touchstone for the counselor in her attempt to define with the student the intangible aspects of jobs: independent thinking, the number and kinds of judgments, and the decision making that the worker in the job would be responsible for.
- The tasks on the Job Descriptions were also used to suggest the physical factors to be considered: the mobility, bending, stooping and physical stamina required by the job.
- The ACE Job Descriptions augmented a basic job description and helped the student picture himself in the job.
- The Job Descriptions helped students look at jobs in terms of discrete elements. In looking at jobs in this way, they could understand the potential for transferability of skills.
- The Job Description helped to remind the counselor and point out to the student that there are many kinds of reading - not simply narrative reading -: reading of charts, schematic drawings and reading for specific factual information.

2. <u>The Job Descriptions in Instruction</u>

- A Job Description was used as an assessment device at the student's intake to the instructional portion of the program. The student would be tested on job-specific tasks which yielded specific information on what instructional objectives the student needed to master.
- Since the tasks on the Job Descriptions were detailed in a very discrete fashion, all students could demonstrate some of the tasks. This provided ACE an opportunity to talk to the student about how he had acquired the tasks, to learn of his cognitive style, and to give him a feeling of what skills he had and could demonstrate. This is an important aspect of the program. We felt that if our students were to learn to be successful, they would need to succeed and be confronted with their success.

- Job Descriptions were used as a source of the instructional objectives which became the student's instructional program.

- Once the program was underway, the Job Descriptions were used to remind the student of why he was working on a particular skill.

D. Goal Specification

In counseling, ACE used a system to help students examine their long-range goals, to break them down into specific, achievable, short-range goals and to examine each of the steps along the way. (See Appendix J). This goal specification was an aspect of the career/life planning process ACE taught. The process helped the student to establish a plan in writing and to examine the consequences of each of the goals he set. It helped the student to break down goals into step-by-step processes. He could then examine what would be likely to happen if he stopped at each point and to see how, if he moved laterally, he could still use the skills he was considering learning. The goal specification process also taught that information is essential to thorough decision making. It reinforced the fact that the needed information is generally available.

E. New ABE Students

ACE had reached, we suspect, a population which traditional adult basic classes do not. ACE was open-entry/open-exit and came in contact with students as they felt the need to begin instruction. ACE provided extensive counseling and life planning and offered the students a staff of persons they felt they could talk to. The ACE student was not faced with a classroom in which he would have to expose his inabilities in front of a large number of people.

ACE made realistic adult demands and actively worked with the students to avoid the feeling of elementary and secondary education.

Adults expect to be treated as adults; they found ACE a comfortable place to begin to accept responsibility for learning and, then, to learn.

F. ACE developed a system for "Competency Basing" real life tasks

The method ACE used can be applied to other areas of adult life. The ACE method of developing competencies involves

- investigation of adult's real life activities
- analysis of these activities into the component tasks
- matching the tasks with instructional objectives

The method produces a curriculum by which the instructor can insure a developmental sequence of skills and through which the student can consistently see the relationship between the academic skill and its application in life.

V. THE ACE STUDENTS

The ACE students were typical ABE students. Extensive demographic data on the 54 students who entered the instructional program is included along with summaries of their activity in the program in Appendix K.

The following tables summarize that data:

TABLE I

GRADES ACE STUDENTS LEFT SCHOOL

Grade	Number of Students
1	0
2	1
3	1
4	2
5	1
6	3
7	2
8	3
9	4
10	4
11	13
12	7
Graduated H.S.	4
H.S.Diploma at Adult School	1
Commercial School (didn't finish)	1
Special Program	1
Sporadic attendance during childhood	1
Continuation School	1
Total	50

Mean: 9.5

Median: 11th grade

TABLE II

NUMBER OF SCHOOLS ATTENDED

Number of Schools	Number of Students
1	6
2	6
3	9
4	4
5	13
6	4
7	2
11	2
12	1
Moved every year	2
Unknown	2
Total:	51

Mean 4.2

Median: 4

TABLE III

SOURCE OF STUDENTS REFERRED TO ACE

Source	Number of Students
Dept. of Rehabilitation	14
Career Preparation Center	6
Self	5
Regional Occupation Program	4
San Mateo County Welfare	3
Armed Forces Recruiter	2
Employment Development Dept.	2
High School	2
Opportunities Industralization Center - West	2
Private Rehabilitation Company	2
San Mateo Vocational Services	2
Youth Employment Program	2
Adult Basic Education	1
Adult Literacy Program	1
Church	1
Director of Education & Training	1
Family	1
Juvenile Probation	1
San Mateo County Reading Program	1
Speech Therapist	1
Total	54

TABLE IV

HEALTH

	Number of Students
Excellent	6
Good	12
Average	22
Poor	14
Total:	54

TABLE V

POLICE RECORDS

	Number of Students
Juvenile/Car Theft	1
Juvenile/Runaway	1
Juvenile/Truancy	1
Drunk Driving	1
Probation	1
Total:	5

TABLE VI

AGE

	Number of Students
15	0
16	3
17	3
18	4
19	3
20	5
21	1
22	2
23	0
24	4
25	1
26	1
27	1
28	0
29	1
30	1
31-35	6
41-45	5
46-50	5
51-55	3
56-60	1
61-65	1
66-70	0
Total:	55

Mean : 28.4

Median: 27

TABLE VII

SEX

	Number of Students
Male	31
Female	23
Total:	54

TABLE VIII

MARITAL STATUS

	Number of Students
Single	26
Married	15
Separated	4
Divorced	9
Total:	54

TABLE IX

RACE ETHNIC GROUP

	Number of Students
White	24
Black	16
Latino/Latina	10
Other	4
Total:	54

TABLE X

EMPLOYMENT STATUS ON ENTRY

	Number of Students
Unemployed	28
On Disability	7
Dropped from Voc.Ed. Basic Skills Class	2
Job in jeopardy for lack of basic skills	2
Re-entering labor market	3
Long-term Welfare	1
Lacked basic skills f/training program	13
Wanted advancement, change of job	8
No job focus	3
Enrolled in 'work experience'	2
Part-time	3
Needed to pass exam for entry to skill training	3
Sheltered Workshops	2
Total:	71

TABLE XI

PREVIOUSLY ATTENDED ABE CLASSES

	Number of Students
Yes	18
No	36
Total:	54

TABLE XII

PHYSICAL DISABILITIES

	Number of Students
Back Injury	6
Epilepsey	1
Kidney	1
Heart Trouble	1
Blindness	4
Visual Handicap	1
Lack of Physical Strength in hands or legs	5
Total:	18

TABLE XIII

SUPPORT SYSTEM*

	Number of Students
Family	26
Agency	14
Friends	6
Jobs	8
Spouse	8
Counselor	5
Doctor	4

* duplicated count

TABLE XIV

OBSTACLES ON ENTRY*

	Number of Students
Family problems	10
Physical problems	7
Low self confidence/ failure syndrome	5
Unstable education & work history	4
Lacked motivation	3
Insecurity	2
Labeled Learning Handicapped	2
Money	2
No job goal-unrealistic	2
Transportation	2
Work Schedule	2
Difficulty understanding English	1
Socially retarded	1

* duplicated count

TABLE XV

NON-NATIVE ENGLISH SPEAKER

	Number of Students
Yes	14
Dominant Language spoken in home was other than English	4
Total	18

TABLE XVI

DROPPED DUE TO MOVE

	Number of Students
Dropped due to move	11

TABLE XVII

UPON LEAVING ACE*

	Number of Students
Began GED study	8
Entered ABE	8
Entered Vocational Training	6
Got job	13

* duplicated count

TABLE XVIII - STUDENT PARTICIPATION IN PROGRAM

INSTRUCTIONAL HOURS

Hours	Number of Students
1 - 10	8
11 - 20	4
21 - 30	9
31 - 40	6
41 - 50	1
51 - 60	4
61 - 70	3
71 - 80	3
81 - 90	2
91 -100	1
101 -110	2
111 -120	0
121 -130	4
131 -140	1
141 -150	1
151 -160	1
161 -170	4
171 -180	2
181 -190	1
190 -200	1

Mean : 74.3
Median: 51-60

COUNSELING VISITS (Group/Individual)

Visits	Number of Students
1 - 5	17
6 - 10	16
11 - 15	12
16 - 20	4
21 - 25	1
26 - 30	1
31	1
33	1
40	11
51	1

Mean : 15.3
Median: 6-10

MONTHS IN PROGRAM

Months	Number of Students
Less than 1 month	2
1	3
2	5
3	10
4	4
5	6
6	4
7	6
8	2
9	3
10	3
11	2
12	0
13	2
14	1
15	1

Mean : 5.6
Median: 5

VI. CONCLUSIONS
(based on the "What We Learned" sections)

A. The tendency to judge that adults know what they want in education is misleading. Spending time exposing students to the possibilities that exist is time well spent.

B. Counseling time spent in teaching time management and prioritizing is also time well spent. It provides adult students the basis on which they can build their commitment to an educational program.

C. Projects involving considerable research and development need to spend a good amount of time examining their activities and developing modifications when necessary. Those who fund experimental/demonstration projects need to take this into consideration and permit - indeed encourage - redesign whenever necessary.

D. Demonstration projects must have direct contact with eventual users. Administrators can only facilitate the contact; they cannot substitute for it.

E. Accessing empirical data can provide a solid base for a relevant curriculum. However, this data must be related to instructional objectives and an instructional system must support it.

F. Business, industry and labor are happy to work with educators to establish the skills that should be taught in schools, providing that the educators work in a systematic manner.

G. Students respond well to materials developed from empirical data. Through counseling they learn to become responsible for their own future in learning to develop and fulfill goals.

H. The ACE approach was most successful with those students who were involved in ABE at the same time they were involved in skills training programs.

I. Once an instructional system is in place, it is not difficult to adapt traditional materials to meet the needs of individual students.

J. Focussing on the individual learner permits the development of highly personalized instructional programs which may combine individualized activities with group activities in counseling or instruction. The counseling groups reinforce instruction.

K. The tasks required by the real world can be used as the student's pretest to an instructional program. Since most students entering instruction can demonstrate competency in some of these areas, this process provides the student a positive assessment on which to build.

L. Adult basic education students are full-time adults. They seek instruction in response to events in their lives which make them recognize their need. Traditional adult education must learn to adapt to meet the students' need for meaningful programs which are accessible when needed.

VII RECOMMENDATIONS FOR FURTHER RESEARCH AND EXPERIMENTATION

A. Use of the counseling/instructional team approach as a method of accessing student motivation needs to be investigated further.

B. Research and experimentation needs to be directed toward developing affirmative assessments - "diagnostic testing" procedures which demonstrate and exphasize to the student the skills he brings to the adult school as well as the needs he has.

Affirmative use of currently existing diagnostic procedures would also be worth looking into.

C. Adult educators should be encouraged to experiment with individualized instruction - the benefits are substantial. At the same time, research should be supported which examines the negative effects of individualized instruction. The isolation which individualized instruction encourages should be addressed. The student's ability to hide behind the structure of individualized instruction and not accept responsibility for his learning should also be addressed.

D. Further research into adult learning styles (Cognitive Mapping, etc.) needs to be carried out. There is probably a wealth of information in learning styles research for the educator who seeks to do the job as needed by the adult student.

E. Research needs to be directed toward finding suitable research models for the proper evaluation of adult education programs.

F. Research needs to be directed toward the development of a speaking and listening curriculum pertinent to an adult basic education student's needs.

G. Research and experimentation needs to be directed at the use of problem-solving and decision-making in the ABE setting. These skills are useful to adult students and are crucial to their establishing educational programs which are meaningful. Calm rationality needs to be brought into the lives of most adult basic education students.

H. Research and experimentation need to address methods of helping the student establish and express his "inner curriculum". This inner curriculum will eventually decide the utility of the adult educator's efforts.

I. Academic growth should be defined in terms of increased ability to function in the world - not grade level.

J. Educators should work towards fostering the direct application of academic skills learned. The language skills taught in support of counseling in ACE were used in later counseling sessions. The job related language and math skills were most quickly and most permanently learned when the student could apply them in a vocational education class.

Other experimental/demonstration ABE projects will pick up where ACE left off. The ACE staff hopes that our establishing the life-related need for basic skills and our counseling/instructional system - which emphasizes respect for the adult learner - will provide a firm foundation for their work and its eventual impact on adult basic education.

APPENDICES

A - List of the 100 jobs ACE investigated

B - List of the 70 ACE Jobs Descriptions

C - Methodology for Establishing the Most Frequently Occurring Entry Level Jobs

D - An ACE Competency Based Job Description

E - The Student Competency Profile

F - A Student Assignment Card

G - Evaluation Report

H - Letter Describing One Replication of ACE

I - ACE Brochure

J - Goal Specification

K - Demographic Charts Depicting Student Characteristics

Bibliography of Works Cited

List of the 100 jobs ACE investigated

Child Care Attendant, private
Child Care Attendant, government
Nursemaid
Guard
Unlicensed Practical Nurse
Home Health Aide
Nurse Aide
Medical Assistant
Landscape Gardener
Nursery Laborer
Groundskeeped
Animal Keeper
Telephone Operator
Auto Service Station Attendant
Tire Repair
Muffler Installer
Brakeman, Auto
Diesel Mechanic, Apprentice
Air Conditioning Mechanic
Body Fender Mechanic
Auto Mechanic
Refrigeration Mechanic & Installer
Lawnmower Mechanic
Motorcycle Repairman
Household Appliance Mechanic
Lineman
Vending Machine Repairman
Painter, Spray
Painter, Brush
Carpenter, Apprentice
Roofer, Apprentice
Pipefitter
Medical Supply Clerk
Stock Clerk
Tape Librarian
Laborer, Stores
Salesperson, Parts
Sales Clerk
Salesperson, Women's Garments
Salesman, Auto
Salesman, General
Waiter/Waitress, Informal
Maintenance Man, Factory/Mill
Maintenance Man, Building
Janitor
Porter
Cleaner
Pressing Machine Operator
Blueprint Machine Operator
Maid, Hospital
Housekeeper
Maid
Companion
Ticket Agent
Cosmetologist
Counterman, Coffee Shop
Counterman, Cafeteria
Cook's Helper I
Kitchen Helper
Food Assembler
Cook, Hotel & Restaurant
Cook, Short Order
Cook, Institution
Clerk Typist
Typist
Cashier
File Clerk
Receptionist
Teller
Clerk, General Office
Ward Clerk
Account Clerk
Posting Clerk
Payroll Clerk
Duplicating Machine Operator
Secretary
Keypunch Operator
Order Clerk
General Clerk
Credit Clerk
Electronic Assembler
Micro-Electronics Assembler
Chassis Assembler
Packager/Handler
Machinist, Apprentice
Machine Operator
Production Clerk
Sheet Metal Worker
Darkroom Worker
Shipping Clerk
Truck Driver
Truck Driver, Light
Bus Driver
Taxi Driver
Laborer, General
Loader, General
Material Hauler
Material Handler
Yardman, Building Materials
Printer Circuit Assembler

THE ACE JOB DESCRIPTIONS

LISTED NUMERICALLY

1-Baker
2-Child Care Attendant
4-Guard
8-Medical Assistant
11-Groundskeeper
12-Animal Keeper
15-Tire Repairperson
16-Muffler Installer
17-Garage Mechanic
20-Body Fender Mechanic
21-New-Car Get-Ready Person
22-Refrigeration Mechanic Installer
24-Motorcycle Repairperson
25-Household Appliance Repair
26-Lineworker
27-Painter, Spray (Industrial)
28-Painter, Brush
29-Carpenter, Apprentice
30-Roofer, Apprentice
31-Pipefitter
32-Medical Supply Clerk
33-Stock Clerk
35-Warehouseman (Laborer, Stores)
36-Sales, Automotive Parts
37-Sales, Retail
38-Salesperson, Garden & Housewares
39-Salesperson, Women's Garments
40-Salesperson, Automobile
41-Salesperson, Men's Wear
42-Waitress/Waiter
45-Janitor
46-Porter
48-Pressing Machine Operator
52-Maid
54-Ticket Agent
55-Cosmetologist
57-Counterperson
58-Cook's Helper I
59-Kitchen Helper
60-Food Assembler
61-Injection Molder
62-Data Entry Typist
63-Cook, Institution
64-Clerk Typist
65-Typist I
67-Grocer Checker
68-File Clerk
69-Receptionist
70-Bank Teller
71-Clerk, General Office
72-Ward Clerk
73-Account Clerk
74-Mail Handler (Messenger)
75-Payroll Clerk
77-Secretary
78-Keypunch Operator
82-Electronics Assembler
83-Printed Circuit Assembler
84-Micro Electronics Assembler
85-Chassis Assembler
87-Machinist, Apprentice
91-Meat Cutter
92-Shipping Clerk
93-Truck Driver, LongHaul
94-Truck Driver, Light
95-Bus Driver
96-Taxi Driver
98-General Loader
99-Fork Lift Operator
100-Material Handler

ACE investigated 100 jobs and developed 70 of them into Competency Based Job Descriptions. The above 70 are numbered according to the original listing. The gaps are in the numbering only. This is a complete list of the ACE Competency Based Job Descriptions.

Methodology for Locating Key Entry Level Occupations for San Mateo County*

I. Methodology

One of the goals of the Adult Competency Education Project was to develop competency based job descriptions for the one hundred most frequently available entry level occupations for San Mateo County. The identified jobs would be specified at the six digit DOT code level and would have the following characteristics:

1. Relatively high number of job openings.
2. Entry level academic ability range (GED 1 thru 4).
3. Promotion and wage advancement potential (career lattice).
4. Available or potential occupational skill training.
5. Job sites would be locally available for student visitation.

Step 1) The first step was to screen all the entry level occupations for a relatively high number of job openings.

Two data sources were used for this purpose as follows:

Data Source: 1972-75 and 1975-80, San Francisco, Oakland, SMSA Manpower Projections. EDD Employment Data and Research, U.S. Census Projections.

Data Provided: Current and projected annual employment for 470 census group occupations.

Data Source: Employment Security Automated Reporting Systems (ESARS Table 12). Note: this data is available nationally.

Data Provided: Cumulative Fiscal Year
Job openings in San Mateo County EDD field offices by 3 and 6 digit DOT code.

* Developed by ACE with Glenn Vaughn, Labor Market Analyst, Santa Clara County Office of Education.

The ESARS data represents on the average not more than 15% of the job openings in a geographic area. The manpower SMSA projection data was gathered door to door as part of the U.S. Census and is universal in scope. In order to obtain the ESARS level of detail from the universal projected U.S. Census Data, it was necessary to factor the census groups using the ESARS job opening activity as the factored weights (see attached chart).

Step 2) The second step was to screen the occupations for academic range. The occupations selected for the "on site" employer task analysis interview were screened to be jobs within immediate or near ability range of the target group. This was GED 1-4 (approximately grades 1-8), with emphasis on GED Level 2 and 3. Occupations were eliminated that did not fall within this range.

Step 3) Each selected occupation was to become the first level of a career lattice. The goal was to motivate students toward advanced learning and higher levels of employment after the student achieved competency in the basic academic skills necessary for the original entry level occupation selected. A three or four level career lattice was developed for each selected occupation. The worker trait groups of the Dictionary of Occupational Titles were used to find the related jobs for the career lattice.

Example: The Career Lattice for Salesperson General, DOT 289.458, is listed on the page 488 of DOT. A career lattice is shown below:

Level 1: Salesperson
Level 2: Sales Clerk
Level 3: Salesmen
Sales Manager

Note: The worker trait group is the last three digits of the DOT code. In this case the worker trait group 458 is titled Demonstration and Sales Work.

Step 4) It was considered important to have vocational training available or potentially available for students desiring advanced skill training. The U.S. Office of Education Handbook on USOE training Program Titles and Codes was used for this final screening.

Step 5) The last step before interviewing employees was to identify job sites for interviews and future student visits. Job sites were selected from the local telephone directory for industries typically employing the occupation. An Industry-Occupation matrix that was developed as part of the U.S. Census was used to identify key industrial groups for the occupation being surveyed.

The listing of jobs is attached.

COLUMNS

1.	2.	3.	4.	5.	6.	7.	8.
U.S. Census Group Job Title	Census Group 1972-75 Projected Annual Job Oakland - S.F. SMSA	San Mateo County Proportion of Oakland S.F.-SMSA Labor Force 15%	Census Group 1972-75 Projected Annual Job Openings San Mateo County (Col 2x3)	Related Titles in six Digits and DOT Codes (Table 12)	Number of San Mateo ESAR Openings	Weighted Distribution of ESARS Activity %	Prorated Annual Census Group Openings for San Mateo County at the Six Digit DOT Level (Col 4x7)
Assemblers	599	x .15 =	90	Production Assembler DOT 706.887	(33)	(.37)	(33)
				Electronic Assembler DOT 726.884	(26)	(.29)	(26)
				Chassis Assembler DOT 729.884	(18)	(.20)	(18)
				Mechanical Assembler DOT 739.887	(13)	(.14)	(13)
						100%	

Sub Total 90

Appendix C
Page 4

A.C.E. COMPETENCY BASED JOB DESCRIPTION 100

COMPETENCY BASED JOB DESCRIPTION FACT SHEET

OCCUPATIONAL TITLE: Material Handler

D.O.T. CODE: 509.886

A.C.E. NUMBER: 100

CAREER LATTICE:

FIRST LEVEL: Material Handler

SECOND LEVEL: Supervisor

THIRD LEVEL: Inspector

D.O.T.'s General Educational Level: 2

SITE WHERE THE JOB CAN BE OBSERVED:

Bethlehem Steel
430 Industrial Way
So. San Francisco, CA

The activity which is the subject of this report was supported in whole or in part by the U.S. Office of Education, Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Office of Education, and no official endorsement by the U.S. Office of Education should be inferred.

Number of Annual Jobs in San Mateo County: 24. This number is based upon the San Francisco-Oakland SMSA, U.S. Census Manpower projections and the quarterly employment security applicant record system reports on local San Mateo County Employment Development Department job opening activity.

Usual Entrance Requirements - Application form, interview.

JOB DESCRIPTION (D.O.T.) - Performs any combination of tasks to assist workers engaged in production of iron and steel: Feeds and off-bears equipment, such as conveyors, pilers, and loaders, to charge furnaces, transport hot metal to rollers, and store finished products. Bundles and ties metal rods, sheets, and wire, using banding machine and handtools. Attaches cranehooks, slings, or cradles to material for moving by ELECTRIC-BRIDGE-OR-GANTRY-CRANE OPERATOR (any ind.). Transports material to and from production stations, using handtruck. Feeds material, such as ganister, magnesite, and limestone into crushers to prepare additives for molten metal. Grinds defects, such as burrs, seams, and scratches, from rolled steel, using portable grinder. Sweeps scale from work area and empties dust bins, using wheelbarrow, broom and shovel. Breaks up manganese and scrap metal to facilitate handling, using sledge and pneumatic hammer. Marks identification numbers on steel billets, using chalk. Verifies dimension of products, using fixed gage. Wipes grease and oil from machinery with rags and solvent. May be known according to specific task performed as CONVEYOR MAN; CRUSHERMAN; LOADING CHECKER; MARKER; RACKER; SCRAP BREAKER.

THE ACADEMIC REQUIREMENTS FOR THE JOB OF

MATERIAL HANDLER

Below are listed first in general terms and then in specific competencies the math and communication activities which a person must typically be able to carry out to function successfully as a material handler.

The right hand column lists the exact competencies found to have been essential to the job in our on-site employee interview. This column also notes the skills which are prerequisite to those competencies.

The center column* states the skill in more general language. The controlled language of this column permits comparison of skills between occupations.

* The items in the center column have been abstracted from an abbreviated version of the taxonomy of generic skills developed by Kawula, W. and Smith, A. De W., Generic Skills Handbook of Occupational Information, Training Research and Development Station, Prince Albert, Saskatchewan, 1975.

1A.1 The MATERIAL HANDLER must be able to write I.D. numbers on outgoing shipments.

To accomplish this task, the student must be able to, given a series of numbers in numeral form (e.g., 10, 20, 30), copy series in hand-written form with 100% accuracy.

To demonstrate the ability to perform this task, the student will copy the following numbers exactly as they are typed:

104117 104118 104119
104120 104121

1A.2 Prerequisite to 1A.5 Identify place value of digits in a given whole number with up to seven digits.

1A.3 Prerequisite to 1A.5 Read a given whole number less than ten million and write its name in words.

1A.5 The MATERIAL HANDLER must be able to count the number of bars arriving from production.

To accomplish this task, the student must be able to count a set of up to 100 objects and state or write the number of objects counted.

To demonstrate the ability to perform this task, the student will count the number of books on a given bookshelf.

1B.1 Prerequisite to 1B.5 Perform addition of whole numbers given instructions such as:

What is the total of 8 and 5?
8 plus 5 is ___; 8 + 5 = ___;
Find the sum of 8 and 5;
Add 8 and 5;

$$\begin{array}{r} 8 \\ +5 \\ \hline \end{array}$$

1B.2 Prerequisite to 1B.5 Find the sum of a set of whole numbers of 1-5 digits including cases where carrying is required.

1B.3 Prerequisite to 1B.5

Perform subtraction of whole numbers given instructions such as:
8 minus 5 is ____;
If you had 8 and gave away 5, you would have ____;
Subtract 5 from 8;
Find the difference of 8 and 5;
8 - 5 = ____;

$$\begin{array}{r} 8 \\ -5 \\ \hline \end{array}$$

1B.4 Prerequisite to 1B.5

Find the difference of two 1-5 digit numbers including cases where borrowing is required.

1B.5 The MATERIAL HANDLER must be able to fill orders as iron bars arrive.

To accomplish this task, the student must be able to solve a routine word problem using subtraction and/or addition of whole numbers.

To demonstrate the ability to perform this task, the student will determine the number of bars needed to fill an order for 1,500 iron bars if the original inventory was 876 bars, and production has provided an additional 325 bars.

KEY: 299 bars are needed.

1C.1 Prerequisite to 1C.5

Perform multiplication of whole numbers given instructions such as:
6 times 2 is ____; 6 x 2 = ____;
Six two's are ____;

$$\begin{array}{r} 6 \\ \times 2 \\ \hline \end{array}$$

The product of 6 and 2 is ____;

1C.2 Prerequisite to 1C.5

Find the product of a given pair of whole numbers of which one number is up to five digits and the other number up to three digits.

1C.3 Prerequisite to 1C.5

Perform division of two simple whole numbers (no remainder) given instructions such as:
6 divided by 2 is ____; 6 ÷ 2 = ____;
2 into 6 goes ____ times; 2)6 = ____;
The quotient of 6 divided by 2 is ____; $\frac{6}{2}$ = ____.

1C.4 Prerequisite to 1C.5 Find quotients of 1-5 digit dividends and 1-3 digit divisors including cases where there are remainders.

1C.5 The MATERIAL HANDLER must be able to stack bars safely and in an organized manner.

To accomplish this task, the student must be able to solve routine word problems using multiplication and/or division of whole numbers.

To demonstrate the ability to perform this task, the student will determine:

(a.) The number of stacks 15 high which can be made from a total of 2,250 iron bars.

(b.) Can a shipment of 1275 iron bars be filled if there is a stockpile of 50 stacks of 25 iron bars each?

KEY: (a.) 150 stacks; (b.) No - only 1250 iron bars.

2A.1b The MATERIAL HANDLER must be able to read measurements on iron bars in order to sort them.

To accomplish this task, the student must be able to read fractions orally and explain that a fraction represents a given number of parts out of the total number of equal parts.

To demonstrate the ability to perform this task, the student will read aloud the following fractions and state the number of parts being talked about and the total number of parts for each fraction:

1/2 3/4 1/8 7/16 23/32

6A.7 The MATERIAL HANDLER must be able to find an area large enough to stack a number of iron bars.

To accomplish this task, the student must be able to estimate the area of common rectangular or square objects to within 25% of the actual area.

To demonstrate the ability to perform this task, the student will estimate the area of the room he is now in, in square feet, and check his answer by calculating the area (given the actual measurements).

6E.3 The MATERIAL HANDLER must be able to lift heavy objects.

To accomplish this task, the student must be able to, from visual, kinesthetic and tactual perception, estimate the weight of various items of different shape, size and composition, (e.g., chair, table, book), within 20% of actual weight.

To demonstrate the ability to perform this task, the student will estimate whether or not he can lift at least three objects in the room now occupied.

6F.3 The MATERIAL HANDLER must be able to sort iron bars by their lengths and stack them accordingly.

To accomplish this task, the student must be able to estimate the length, width, height, or distance between objects within 20% of actual measurement, in cases such as the following:

a. dimensions of a book, box, desk, room or building.
b. distances up to 200 yards.

To demonstrate the ability to perform this task, the student will estimate the lengths of at least three objects in the room and then the student will measure them to verify the accuracy of his estimates.

8A.3 Prerequisite to 8A.5 Identify a series of consecutive whole numbers or multiples of whole numbers with or without equal subdivisions between numbers on a measuring device, as a graduated scale.

8A.4 Prerequisite to 8A.5 Write the size of the interval between:

a. numerals on a graduated scale.
b. subdivisions on a graduated scale.

8A.5 The MATERIAL HANDLER must be able to measure iron bars if there is doubt as to which pile it should be included in.

To accomplish this task, the student must be able to write the measurement indicated on a sketch of a graduated scale:

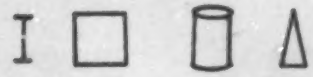
a. to the nearest whole number when the scale is marked off in consecutive whole numbers with or without subdivisions.
b. to a given precision when the scale is marked off in multiples of a whole number with or without subdivisions.
c. to a given precision when the scale is marked off in whole numbers with or without subdivisions representing fractions such as halves, quarters, eighths, sixteenths, tenths, or fifths.
d. to a given precision when the scale is marked off in whole numbers which represent multiples of a given number such as 100 or 1000.

To demonstrate the ability to perform this task, the student will use a ruler or tape measure to measure at least three objects in the room (to be verified by the instructor).

11A.1 The MATERIAL HANDLER must be able to identify various configurations of iron bars (e.g., cylinders, I-bars, squares, etc.)

To accomplish this task, the student must be able to identify rectangles, squares, triangles, circles, rectangular solids, cubes, pyramids, cones, cylinders and spheres from a set of objects, pictures of objects, or names of objects.

To demonstrate the ability to perform this task, the student will identify the following figures correctly:



a. b. c. d.

KEY: a. I-bar; b. square; c. cylinder; d. triangle

13A.1 Prerequisite to 15A.3 Given letters of the alphabet in manuscript form and in random order, read each letter and pronounce each letter correctly.

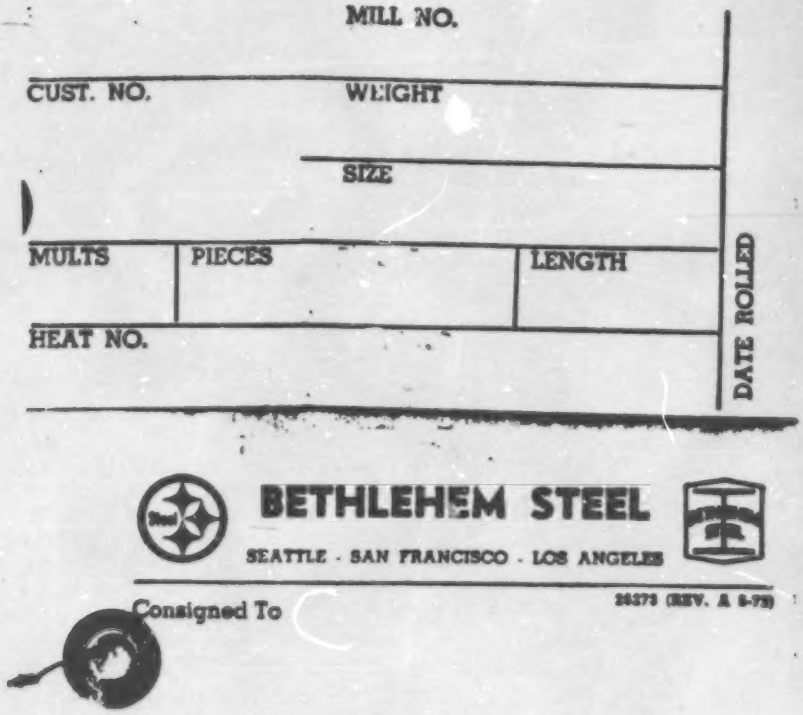
15A.1 Prerequisite to 15A.3 Read a list of 50 words from a series of commonly used terms (e.g., from the Dolch List).

15A.2 The MATERIAL HANDLER must be able to read labels on shipments to determine where they should be shipped.

To accomplish this task, the student must be able to read words from the labels of frequently used products or of products used in a given occupation.

To demonstrate the ability to perform this task, the student will read the words on the labels below and briefly explain the following words and abbreviations to the instructor:

NO.	WEIGHT	DATE
CUST. NO.	SIZE	CONSIGNED
PIECES	LENGTH	STEEL



15A.3 The MATERIAL HANDLER must be able to converse with co-workers and supervisors.

To accomplish this task, the student must be able to read and use in an oral sentence words from a list of words common to the vocabulary of a given occupation.

To demonstrate the ability to perform this task, the student will read aloud each of the words below and then correctly match it with the correct definition on the right.

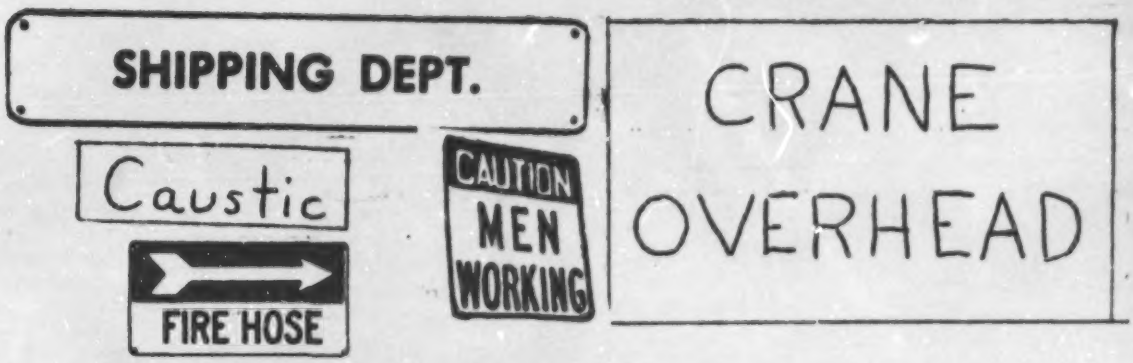
A. scaffold	1. fire-resistant mineral used in protective clothing
B. acetylene	2. fire extinguisher used for wood or rubbish fires
C. shop steward	3. raised framework on which people work
D. gantry	4. tools operated by using compressed air
E. burr	5. used to put out oil or gasoline fires
F. shackle	6. colorless, poisonous, highly flammable gas, used with oxygen in blow torches, welding, etc.
G. Class B fire extinguisher	7. wheeled framework with a crane for transporting heavy objects
H. Class A fire extinguisher	8. heavy duty coupling device
I. pneumatic tools	9. thick, heavy rope made of wire strands
J. conveyor belt	10. person elected by his fellow workers in a union shop to represent them in dealing with the employer
K. billet	11. continuous chain or belt for carrying objects
L. asbestos	12. rough edge left on metal after processing
M. cable	13. small, unfinished metal bar, especially of iron or steel.

KEY: A-3, B-6, C-10, D-7, E-12, F-8, G-5, H-2, I-4, J-11, K-13, L-1, M-9.

15B.1 The MATERIAL HANDLER must be able to work safely on the job.

To accomplish this task, the student must be able to read aloud and explain a series of common functional signs (e.g., safety signs, road signs etc.).

To demonstrate the ability to perform this task, the student will read aloud the following signs and briefly explain their meanings to the instructor:



16D.1	Prerequisite to 16D.6	Identify a manual as a handbook of instructions and/or information related to one topic, and give an example of a manual.
16D.2	Prerequisits to 16D.6	Identify the particular kind of information or directions included in a given manual, using the title, table of contents, and/or index as guide.
16D.3	Prerequisite to 16D.6	Identify the parts of a given manual which apply to a given situation using the table of contents and/or index as guide.
16D.5	Prerequisite to 16D.6	Apply instructions or information from a given manual to a particular situation given an oral description of a problem that can be solved using information from the manual.

16D.6 The MATERIAL HANDLER must be able to follow company policy and union guidelines.

To accomplish this task, the student must be able to, given a typical company manual or union agreement containing administrative, policy, personnel and financial rules and regulations, answer factual questions based on the manual for items such as hours of work, rates of pay, vacation or other leave, grievances, promotion and discipline.

To demonstrate the ability to perform this task, the student will examine the page to the left below and determine on what page one would find information about a.) Christmas; b.) working the graveyard shift.

The student will examine the page to the right and answer the following questions: a.) how many holidays are you entitled to? d.) what day is Washington's birthday?

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reason of any strike or other stoppage of work in connection with any labor dispute or any failure of utilities beyond the control of Management or Act of God.

08.00.00 ARTICLE VIII — HOLIDAYS

08.01.00 *Section 1. Holidays*

08.01.01 Whenever used in this Agreement, the term "holiday" means one of the following days: January 1, Good Friday, Memorial Day, **(which shall be the last Monday in May)** July 4, Labor Day, Thanksgiving Day, the day following Thanksgiving Day, the day preceding Christmas and Christmas Day, **and, beginning with the year 1977, Washington's Birthday (which shall be the third Monday in February).** If any of such holidays shall fall on a Sunday, the following Monday (and not such Sunday) shall be observed as such holiday.

08.02.00 *Section 2. Eligible Employee*

08.02.01 An eligible Employee who does not work on a holiday shall be paid 8 times the applicable hourly rate of the job to which he is regularly assigned, exclusive of shift, Sunday and overtime premiums (in the case of an Employee who is paid on an incentive basis, the Employee's average hourly earnings exclusive of shift, Sunday and overtime premiums for the pay period preceding the one in which the holiday is observed shall be used, except that if he does not perform any work in such pay period, the pay period in which the holiday is observed shall be used); provided, however, that if an eligible Employee is scheduled to work on any such holiday, but fails to report and perform his scheduled or assigned work, he shall become ineligible to be paid for the unworked holiday, unless he has failed to perform such work because of sickness or

17A.7 Prerequisite to 19A.15 Do an exercise that requires recall of given instructions or information.

17A.13 Prerequisite to 19A.15 Given a set of written instructions involving activities to be performed by a number of people, and the particular roles, prepare a list and sequence of activities to be performed.

19A.15 The MATERIAL HANDLER must be able to follow instructions on special shipments.

To accomplish this task, the student must be able to perform a series of two or three activities which require recall of oral instructions. (The activities to be within the abilities of the student - recall is the item to be demonstrated.)

To demonstrate the ability to perform this task, the student will listen to the following instructions (to be read aloud by the instructor) and then perform them:

a.) Turn to page 1 of this job description;
b.) Circle all words beginning with the letter "L";
c.) Cross out all the zeros on this page.

21A.4 Prerequisite to 21A.5 Given a standard clock, tell correct time to within 5 minutes of actual time.

21A.5 The MATERIAL HANDLER must be able to fill out a time card.

To accomplish this task, the student must be able to, given times of the day, write time: a. 8:00, b. eight o'clock, c. 8 o'clock.

To demonstrate the ability to perform this task, the student will look at the clocks to the left and write down the times indicated.

22B.1 Prerequisite to 22B.2 Given simple data in the form of words and figures, write complete sentences on forms which are legible and which convey the required information.

22B.2 The MATERIAL HANDLER must be able to apply for a job.

To accomplish this task, the student must be able to complete a sample application form for employment in a legible manner.

To demonstrate the ability to perform this task, the student will fill out exhibit 100-A correctly and neatly.

26B.1 The MATERIAL HANDLER must be able to sort iron bars by their lengths for shipping.

To accomplish this task, the student must be able to, given objects, sort by given classification criteria. The sorting should require a minimum of judgment. To oversimplify, sorting apples by types or tools by various generic classifications would be appropriate but sorting apples by quality or lumber by grades is a rating skill.

To demonstrate the ability to perform this task, the student will sort a group of pencils into two groups - those over 4 inches long and those shorter than 4 inches.

SAMPLE COPY

100-A (Page 1)

EMPLOYMENT APPLICATION

(PLEASE PRINT, TYPE OR WRITE LEGIBLY)

DATE _____

MR. MISS MRS _____ (LAST, FIRST, MIDDLE) SOCIAL SECURITY NUMBER _____

PRESENT ADDRESS _____ (STREET, CITY, STATE, ZIP CODE) TELEPHONE NUMBER _____

PERMANENT ADDRESS _____ (STREET, CITY, STATE, ZIP CODE) LENGTH OF PRESENT RESIDENCE _____

TYPE OF WORK DESIRED _____ MINIMUM SALARY ACCEPTABLE _____ DATE AVAILABLE _____

AGE _____ DATE OF BIRTH _____ (MO, DAY, YEAR) HEIGHT _____ WEIGHT _____ U.S. CITIZEN? _____

SINGLE _____ MARRIED _____ TIMES _____ DIVORCED _____ SEPARATED _____ ENGAGED _____ WIDOWED _____

NAME OF HUSBAND OR WIFE _____ OCCUPATION OF HUSBAND OR WIFE _____ DATE OF MARRIAGE _____ (MO, DAY, YR)

NUMBER OF DEPENDENTS _____ NAMES OF CHILDREN & AGES _____

FATHER'S OCCUPATION _____ MOTHER'S OCCUPATION _____

IN CASE OF EMERGENCY CALL: NAME _____

ADDRESS _____ TELEPHONE _____

APPLICANT'S STATEMENT OF HEALTH

Have You Ever Failed to Pass an Insurance Physical Examination? _____ Do You Have Any Physical Limitations? _____

Have You Ever Filed a Claim for Workmen's Compensation? _____ If Yes, Describe _____

If Yes: Did You Receive an Award? _____

Was It Based on Permanent Disability of Any Kind? _____

Have You Missed Any Work the Past Six Months Due to Illness? _____ If Yes, Explain _____

EDUCATION

TYPE OF SCHOOL	NAME OF SCHOOL	LOCATION	YRS ATTENDED	DATE LAST ATTENDED	DIPLOMA OR DEGREE
Last Elementary					
Last High School					
College or University					
College or University					
Business or Trade School					
Other Training					

SUBJECTS MAJOR	SUBJECTS MINOR	SUBJECTS GRADUATE

FOREIGN LANGUAGES	INDICATE Fluent, Fair, Poor		
Languages	Speak	Read	Write

What Percentage of Your College Expenses Did You Earn _____

How? _____

Scholastic Honors Received _____

Honorary Clubs and Societies _____

Extracurricular Activities _____

Highest Elected or Appointed Office _____

Average Grade In High School _____ Grade Point Average In College _____ Based on What System _____ In What Quarter of Your College Class Did You Stand, Academically? _____

U.S. MILITARY SERVICE

BRANCH _____ RANK _____ SERIAL NUMBER _____ ACTIVE DUTY DATES: FROM _____ TO _____

SPECIFIC DUTIES _____

TYPE OF DISCHARGE _____ RESERVE STATUS _____ DRAFT CLASSIFICATION _____

MILITARY SCHOOLS ATTENDED

REV 3 71

WORK EXPERIENCE: List Most Recent or Present Job First, then Next Recent, etc.

Name of Firm		Address (Street and Number)	(City)
Employment Dates (Month & Year) From / To /	Salary	Supervisor	Nature of Firm's Business
Nature of Your Work		Reason for Leaving	
Name of Firm		Address (Street and Number)	(City)
Employment Dates (Month & Year) From / To /	Salary	Supervisor	Nature of Firm's Business
Nature of Your Work		Reason for Leaving	
Name of Firm		Address (Street and Number)	(City)
Employment Dates (Month & Year) From / To /	Salary	Supervisor	Nature of Firm's Business
Nature of Your Work		Reason for Leaving	
Name of Firm		Address (Street and Number)	(City)
Employment Dates (Month & Year) From / To /	Salary	Supervisor	Nature of Firm's Business
Nature of Your Work		Reason for Leaving	
Name of Firm		Address (Street and Number)	(City)
Employment Dates (Month & Year) From / To /	Salary	Supervisor	Nature of Firm's Business
Nature of Your Work		Reason for Leaving	

Explain Periods of Unemployment After Leaving School

REFERENCES: Give Three Character References (Not Former Employers or Relatives)

Name	Address (Include Street and City)	Occupation
Name	Address	Occupation
Name	Address	Occupation

To the best of my knowledge the above information is correct. I understand that Del Monte Corporation may wish to investigate my character and qualifications for employment by questioning my references and former employers and I have no objection to this. I understand that my employment is subject to a physical examination, a fidelity bond and a ninety (90) day probationary period.

DO NOT WRITE BELOW THIS LINE

Signature _____

Employed For		
Position Title		
Starting Date	Salary	
Interviewed By		
Company Phone By	References Checked	Fidelity Bond
To Doctor	Date	Report
Employment Information		

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READING

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1B.	Add and Subtract	[1] [2] [3] [4] [5] [6]
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2B.	Add and Subtract	[1] [2] [3] [4] [5] [6] [7] [8] [9] [10]
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7N.	Number Bases	[1] [2] [3] [4] [5] [6] [7] [8] [9]
7O.	Set Theory	[1] [2] [3] [4] [5] [6] [7] [8] [9] [10] [11]
7P.	Group Theory	[1] [2] [3] [4] [5] [6] [7] [8] [9] [10] [11] [12] [13] [14] [15] [16] [17]

MEASURE	
8A. Read Graduated Scales	[1] [2] [3] [4] [5] [6] [7]
METRIC MEASURE	
9A.. Distance	[1] [2] [3] [4]
9B. Distance Conversion	[1] [2]
9C. Weight	[1] [2] [3] [4]
9D. Weight Conversion	[1] [2]
9E. Capacity	[1] [2] [3] [4]
9F. Capacity Conversion	[1] [2]
9G. Temperature Conversion	[1] [2] [3] [4] [5]
DRAWINGS AND GRAPHS	
10A. Read Graphs	[1]
10B. Draw Graphs	[1]
GEOMETRIC FIGURES	
11A. Forms and Figures	[1] [2] [3] [4] [5] [6] [7] [8] [9]
11B. Angles	[1] [2] [3] [4] [5] [6] [7] [8] [9] [10] [11] [12] [13] [14]
11C. Draw/Sketch	[1] [2] [3] [4]
DRAWINGS AND GRAPHS	
12A. Read Scale Drawings	[1] [2] [3] [4]
12B. Draw to Scale	[1] [2] [3]
12C. Measure From Scale Drawings	[1]
12D. Read Assembly Drawings	[1]
12E. Read Schematic Drawings	[1] [2]
12F. Shop Drawings	[1] [2]

FRACTION

OBJECTIVE: 2A READ AND WRITE

NAME: _____

CSJD: _____

Item		Score	Rating	Date Completed
2A.1	NAME FRACTION [redacted]			
2A.2	REDUCE TO LOWEST TERMS			
2A.3	5 3/4 = 23/4 ; 29/4 = 5 3/4			
2A.4	3/4 = 7/8, 1/16 ; 3/4 = 9/12, 12/16			
2A.5	ARRANGE IN ORDER: 3/4, 1 1/2, 3/16, 3/32, 3/8			
2A.6	35 = 1/4 OF ?10, REDUCE			

Student Assignment Card

DATE	ASSIGNMENT		COMMENTS	DATE	ASSIGNMENT		COMMENTS

Appendix F

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STATISTICAL EVALUATION PLAN

The statistical evaluation plan for the ACE program centered around one of the objectives presented in the proposal:

> The project will demonstrate that project students' gains in reading and mathematics are significantly greater per hour of instruction than are the gains of ABE students in another individualized setting and in reading and mathematics classes.

The plan included the Adult Basic Learning Examination (ABLE) as the instrument to be used to obtain test scores for the groups of students in the study. Scores for students in the ACE program would be compared with the scores from students in the other adult education programs. A statistical comparison of data would be used to determine the relative effectiveness of the different programs.

In addition to the analysis that would relate directly to the objectives, another analysis was planned. Eleven variables were identified and postulated to have an effect on a student's progress in the program:

1. sex
2. age
3. socio-economic status
4. income
5. health
6. marital status
7. transiency
8. educational level
9. ethnic background
10. counseling hours
11. instructional hours

The statistical analysis (multiple regression) would identify which of the eleven variables had a strong relationship to a student's success in the program.

The program was to be monitored. Random visits to the ACE program would verify that, indeed, the program was in progress so that any evaluation findings would relate directly to the program as implemented.

IMPLEMENTATION

Difficulties were encountered as test scores were compiled for the analysis in which comparisons were to be made. The transient nature of the adult students meant that pre- and posttest scores for many students were not available.

There were wide variations in the total number of instructional hours for different students. For example, in one program student time ranged from 36 hours to 246 hours. In the ACE program student time (for students used in analyses) ranged from 41 hours to 265 hours.

As with the total number of hours of instruction, the frequency with which adult students attended showed much variation. For some adults the number of instructional hours was relatively low but extended over a long period of time; for some adults the number of instructional hours was relatively high but was concentrated in a few weeks time.

Only one comparison group was available for the statistical analysis. Students from CPC North were not included because of difficulties in time schedules and test administration. Therefore, only the Metropolitan Adult Education Program (MAEP) was available to compare with the ACE student scores.

Mathematics tests were not administered with as much regularity or attention to ability level as were the reading tests. As a result, no analysis of mathematics scores was performed because of the unavailability of a large enough sample of pre- and posttest matched scores.

The multiple regression analysis was performed using the list of dependent variables cited, but a review of the results suggested that the independent variable -- success in the program -- was too subjective and, therefore, invalidated the analysis.

MONITORING

Visits to the ACE program were made on a random basis during the implementation of the program. The observer verified that the program was implemented according to plan and, therefore, the results of any analysis related to the program as described earlier in this report.

STATISTICAL ANALYSES

As a preliminary to the comparison of test score gains between the ACE and MAEP students, pre-test reading scores were analyzed to determine if the groups of students who enrolled in the two programs were comparable. The statistical test used was the Mann-Whitney U. In both cases the differences between the two groups was not statistically significant. The two groups of students in the two different programs had test scores that could be viewed as being similar. The data is summarized on the following page with N = number of students.

ABLE I

ACE		MAEP	
N = 17	Raw Score	N = 38	Raw Score
Low	8	Low	13
High	51	High	50
Median	43	Median	43
Mean	35.06	Mean	41.87
Std.Dev.	13.74	Std.Dev.	7.29

ABLE II

ACE		MAEP	
N = 54	Raw Score	N = 8	Raw Score
Low	10	Low	37
High	58	High	56
Median	49	Median	53
Mean	44.19	Mean	42.25
Std.Dev.	11.17	Std.Dev.	17.09

As was the case with the total groups, the actual pre-test student reading scores used in the pre- posttest gain comparison proved to be similar for both the ACE and MAEP program.

For the comparison of test scores between the two groups, sixteen (16) ACE pre- posttest scores were available and twelve (12) MAEP pre- posttest scores were available. Gain scores in reading and hours in the program were transformed into "months per hour."

	N	MEDIAN MONTH GAIN	MEDIAN HOURS INSTRUCTION	MEDIAN MONTHS/HOUR
ACE	16	35	103	.34
MAEP	12	50	160	.29

While the data showed greater gains per hour of instruction for the ACE program, the difference, using Mann-Whitney U, was not statistically significant and was attributed to chance. Reading score gains per hour of instruction for the ACE and MAEP programs were viewed as similar.

CONCLUSIONS

The major finding was that the ACE program students and the MAEP students gained at similar levels per hour of instruction.

The difficulty in collecting data from adult students was the major element that limited the analysis. Variations in attendance and the wide variations in academic abilities produced many test scores that were unusable. Adult education programs do not lend themselves to the classical models used in the analysis of achievement test scores in the regular public schools.

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San Jose Unified School District
MR. RODERICK CLENDENEN, Assistant Superintendent
San Jose Unified School District
MR. FRANK FISCALINI, Superintendent
East Side Union High School District
MR. RUDY GATTI, Superintendent
Santa Clara Unified School District
DR. JOHN MACKAY, Superintendent
Milpitas Unified School District
DR. NICHOLAS MONTEBANO, Superintendent
Campbell Union High School District

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MR. VIRGIL MILLS, Principal
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ADMINISTRATION OFFICE
1671 Park Avenue
San Jose, California 95126
998-6350

March 29, 1978

Mr. Joseph Cooney
San Mateo County
Office of Education
333 Main Street
Redwood City, CA 94063

Dear Mr. Cooney:

The Adult Competency Based Education Project (ACE) has been in full operation for the past six weeks (1/30/78 to 3/13/78). The program is being offered under the auspices of the Metropolitan Adult Education Program (MAEP) is San Jose, California. This paper is a brief summation of my involvement as a teacher integrating the ACE program into an established Adult Basic Education (ABE) classroom.

I was initially exposed to the program in November of 1977. At that time, Mr. Joseph Cooney gave a slide presentation at a MAEP teachers' meeting. Other employees and I felt that ACE could reach a unique student population that was destined for failure in the "traditional" ABE classroom. I also hoped that the program could fill the void that often exists between the 3 R's and the individual students cry for relevant education.

What followed were several meetings between ACE staff members and MAEP staff members. These meetings helped us weigh the pros and cons of the project. These encounters also helped us more fully understand the major concepts of ACE. MAEP concluded that the program was valuable enough to be offered on an experimental basis. The final decision to go ahead with ACE was made in early December 1977. The projected starting date was January 30, 1978.

MAEP decided to offer ACE as a totality. All completed job descriptions would be made available. Mr. Joseph Cooney and staff were most supportive. The months of December and January were spent ordering materials, running-off worksheets and filing. It was not until midway into the duplicating process that the immensity of this project became a reality. At this point there was no turning back.

Now that the program is in full operation, I have no regrets about our decision to offer ACE as a complete package. I ran off hundreds of copies of each worksheet. I felt that if ACE were successful, material could then be sent to other centers and the program could expand. The job descriptions have proven to be powerful drawing cards. At this writing, there are forty active students. The morning class is closed to additional enrollment. New students come through the door daily seeking information about ACE. Expansion of the project is under serious consideration.

Accredited by

I feel that ACE can become an integral part of any ABE classroom. The individualized approach lends itself to great flexibility. The teacher must have a complete understanding of the concepts and philosophy behind ACE. The material must be well organized before anyone attempts to use it is the classroom. The project must also have the support of the teachers, supervisors, and administrators. I was encouraged and advised many times during this projects' development. The teacher must also feel comfortable with individualized instruction. The program is still too new for me to come to any conclusions about its effectiveness. In my opinion ACE is effective on a daily basis and shows promise for effectiveness on a long term basis.

I have seen three distinct groups evolving within the classroom: (1) the more "traditional" ABE student whose major goal is to improve his/her basic learning skills, (2) the individual whose major goal is to find a job. These students find the material extremely motivating and are working steadily towards their job goal, and (3) the individual who is presently employed but either lacks or needs to improve the basic learning skills needed to function effectively. I did not expect to encounter this last group. I doubt they would have come near the classroom if ACE had not been in operation. These three groups work side-by-side daily.

I always felt that ACE could be a rich educational experience for both the students and the teachers. Now it is a reality. I invite all interested people to come and see this program in action.

Sincerely yours,

Deborah Moran (2K)

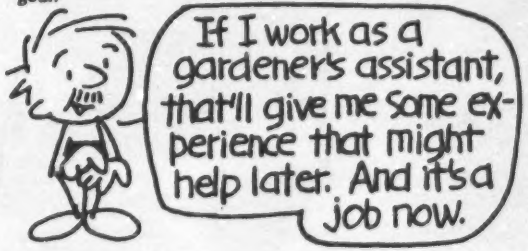
Deborah Moran,
Instructor

THE ADULT COMPETENCY EDUCATION PROJECT WILL...

ASSESS the student's current occupational situation with him/her.

HELP students establish their long-range goals and determine the requirements.

HELP the student define those activities which would help meet his/her current employment needs and also help take a step towards the eventual goal.



ANALYZE many unskilled semiskilled jobs into the specific math and communication competencies they demand.

Gardener's Assistant
JOB DESCRIPTION

* READ BLUEPRINTS TO LOCATE SEWER AND WATER SYSTEMS TO LAY OUT PLANTING AREAS.
* OPERATE AND CARE FOR POWER EQUIPMENT BASED ON ORAL DIRECTIONS.
* CALCULATE THE AMOUNT OF FERTILIZER REQUIRED FOR A GIVEN AREA.
* MAINTAIN RECORDS OF MATERIALS USED.

PROVIDE the student the competency-defined job description and up-to-date information about the local job opportunities.

ESTABLISH a skills program.

SKILLS PROGRAM

1. Complete Exercises 7 - 14 in Book B Locating the Answer. Specific Skills.
2. Be able to use each of the following words in an oral sentence which shows that you know the meaning of the word:

proportion	dissolve
hazardous	chemicals
edger	rear-tiller

3. Complete twenty one-digit multiplication problems with 90% proficiency.
4. Etc.

ESTABLISH a job-getting skills program.

VOCATIONAL PREPARATION PROGRAM

1. Role-play an interview.
2. Have prepared a wallet-sized card which contains information commonly asked on applications.
3. Discuss job-seeking approaches in a small group.
4. Etc.

COUNSEL the student as he/she attempts jobs and help evaluate and revise skills programs.

Appendix I

The **Adult Competency Education (ACE)** Project is a two-year project which will provide counseling and individualized instruction in literacy skills to one hundred adults through February, 1977.

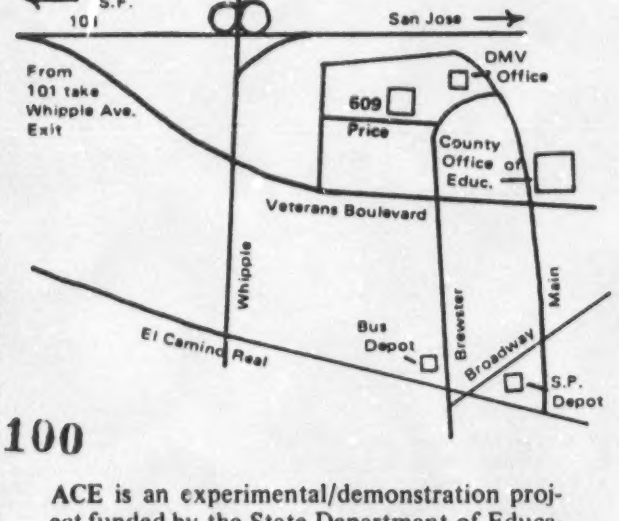
It will help students build useful and fundamental skills, and widen employment capabilities and opportunities

The Adult Competency Education Project
609 Price Avenue, Redwood City 94063

STAFF

Joe Cooney ..... Project Director
Linda Kurtz ..... Vocational Counselor
Don Macartney ..... Reading Specialist

Call: (415)364-5600, extension 2630



ACE is an experimental/demonstration project funded by the State Department of Education, and administered through San Mateo County Office of Education's Vocational Education Division. ACE seeks to demonstrate that adults make more rapid gains in communication and math skills when the student's life-vocational goals and competency-defined job descriptions are used as the basis for establishing the immediate learning task.

The ACE project is federally funded under the Adult Education Act.

The Adult Competency Education (ACE) Project
609 Price Avenue, Redwood City 94063

ADULT COMPETENCY EDUCATION

BASIC SKILLS IN SPEAKING, MATH, AND READING FOR EMPLOYMENT

GOAL-SPECIFICATION: PETE

GOALS	REQUIREMENTS
To become a landscape designer	Bachelor's Degree
To obtain Bachelor's Degree	Four years of college, minimum of 10th grade reading level, ability to do algebra
To attain at least a 10th grade reading level and to learn algebra	Community college transfer course
Graduate from a community college transfer course	Accomplishment plus confident entrance to community college
To feel confident regarding entrance to community college	Reading and math skills at minimum of 8th grade level
To be able to read and do math at the 8th grade level	Time, energy and support for instruction period
Time, energy and support for instructional period	Employment
Jobs which demands skills which are also skills on the student's career ladder	The competency-defined job descriptions

Goal Specification: the process of working from the student's long range goal to that specific goal and its requirements which can be accomplished in a period of time and with an outlay of energy which is comprehensible to the student. All points on that path are examined and the possibilities which extend from each of these constitute an individualized career ladder. By establishing that there are jobs available which demand those competencies, the project not only reinforces the actual value of those skills but also provides the student actual employment possibilities.

Demographic Charts depicting Student Characteristics

NAME OF STUDENT	LEFT SCHOOL WHEN / NUMBER OF SCHOOLS ATTENDED	REFERRED FROM	AGE / SEX/ MARITAL STATUS / RACE/ ETHNIC GROUP	HEALTH / POLICE RECORD	EMPLOYMENT STATUS ON ENTRY	ENTRY SKILL LEVEL R: Reading M: Math	PREVIOUSLY ATTENDED ABE CLASSES	PHYSICAL DISABILITIES	SUPPORT SYSTEM	OBSTACLES UPON ENTRY
#1	HS Grad. 1976	D.R.	29 F/Sgl White	Good No	Unemployed on disability.	ABLE R 9.0 M 6.9 RPS 5 Spelling Very Poor	Yes got HS diploma there	Mild cerebral palsy; neck injury keeping her from returning to nurse's aide job.	D.R. counselor, few friends workmen's compensation.	None
#2	Jr. Yr. 12	OICW Pre-Voc program	21 M/Sgl Black	Good No	Dropped from classroom basic skills program Not job ready	ABLE R 7.0 M 3.4 RPS 58%	Yes	None	Lives with his family	Very low math transportation problem OICW bus couldn't bring him.
#3	Jr. Yr. 2	ABE class	50 M/M White	Good No	Job in jeopardy due to lack of reading/ writing	Could copy words; preliterate	Yes referred out	None	Wife, Family, Friends, Job	
#4	6th grade 2	Self from ACE flyer in Laundry	51 F/M White	Good No	Unemployed reentry woman	ABLE R 8.7 M 3.4		None	Husband supports financially. Joined women's group.	Low self-confidence; Frequently didn't attend because had to care for handicapped son.
#5	6th grade	D.R.	35 M/Div. Black/ Jamaican	Work related lung problem No	Comfortable on relief. Desired 'society' of job	ABLE R 2.0 M 2.5	Yes for 3 years	Severe breathing problems due to working in chemcal factory	Small Ga check; lived with lady rent-free for long time; friends from church.	Could not read at all Probably guessed on ABLE
#6	11th grade 5	S.M.Co. Welfare	24 M/M White	Good No	Lack skills to enter trng program	ABLE R 6.0 M 4.7 A sight reader	Yes attended 3 classes	None	Welfare, Family, Friends	None

OBSTACLES IN PROGRAM	NON-NATIVE ENGLISH SPEAKER	JOB DESCRIPTIONS	DROPPED DUE TO MOVE?	POSITIVE PLACEMENT? WHAT KIND?	UPON LEAVING A.C.E. WENT TO G.E.D.	WENT TO A.B.E.	WENT TO VOC.ED CLASSES	GOT JOB ELSEWHERE	HOURS PARTICIPATED IN PROGRAM I: Instruction Hours C: Counseling Visits TOTAL TIME PARTICIPATED	PROGRESS IN PROGRAM
		Ward Clerk		Yes, into clerical skills training program at Poplar Center. Plus basic skills related to Ward Clerk	X		X	X X	I: 36 C: 10 3½ months	Discreteness of learning tasks helped her focus. Transferred to G.E.D. Went up 2 levels in Michigan Spelling. Settled down/Improved self esteem.
Was easily distracted from working on skills		Electronics Assembler	No	Yes, went from prevoc. to vocational skills training at OICW when his math improved			X	X	I; 74 C; 5 8½ months	Individualized setting benefited. Got into training program Math improved.
Low energy lacked developmental skills needed to read		Heavy Equipment Operator	No	Referred to CPC				X	I: 128 C: 2 14 months	Began to build work-related sight vocabulary
Same as "upon entry'		Sales-clerk	No	Referred to CPC	X				I: 62 C: 21 6 months	Made progress in counseling by learning to set goals for self. Rec'd outside counseling to work behaviorally on self-esteem & assertiveness concerns. Counseling helped attend more frequently & attendance helped student make great progress in math. Became convinced of her worth. A great deal of attitudinal progress: ABLE R +.3 M +3.4
Severe reading and math problems throughout; health problems Dyslexic	Yes	Truck/ bus driver		Went to ABE after ACE		X	X	X	I: 324 C: 40 13 months	R 1.6 (-.4) M 3.1 (+1.1) Became more active in looking for work. Got into LD class during ACE.
None		Body fender mechanic	No	Yes After a bad start with OICW, successfully completed ROP body repair course.			X		I: 122 C: 6 5 months	Job related tasks from job descriptions turned him around Counseling for job description convinced him skills were related to jobs and he was willing to study. ABLE: R 8.7(+2.7) - M 6.2(+1.5) He recognized further capability. Read his first novel - he selected "Old Yaller"

NAME OF STUDENT	LEFT SCHOOL WHEN / NUMBER OF SCHOOLS ATTENDED	REFERRED FROM	AGE / SEX/ MARITAL STATUS / RACE/ ETHNIC GROUP	HEALTH / POLICE RECORD	EMPLOYMENT STATUS ON ENTRY	ENTRY SKILL LEVEL R: Reading M: Math	PREVIOUSLY ATTENDED ABE CLASSES	PHYSICAL DISABILITIES	SUPPORT SYSTEM	OBSTACLES UPON ENTRY
#7	H.S. Certificate of attendance / 3	S.M.Co. Reading Program	24 / F/Sgl / Puerto Rican/ American	Good / No	Employed as child care attendant wanted to be able to advance	ABLE R 7.2 M 3.0	No	None	Mother Church	None; labeled learning handicapped, knew it and was hindered by this definition
#8	Sophomore / 11	Y.E.P.	19 / M/Sgl / White	Good / No	Was going gardening or work experience wanted small engine repair.	ABLE R 2.6 M 3.9	No	None	Mother Y.E.P. job supervisor	Couldn't read Failure syndrome
#9	Jr. High / 6	D.R.	17 / M/Sgl / White	Good / No	Unemployed had failed at voc. trng program in plastics technology	ABLE R 3.4 M 3.7	No	Hyperactive Considered to be borderline retarded.	Mother, Doctor, D.R. Counselor	Unstable education and work history
#10	6th Grade / 6	Juvenile Probation	17 / F/Sgl / Black	Good / Juvenile Truancy	No job focus	ABLE R 9.0 M 3.7	No	None	Very weak, lived with mother	Been out of educational setting since junior high, lacked motivation.
#11	Could not remember / 4	San Mateo County Welfare	18 / F/Sgl / Mexican American	Good / No	Unemployed Never worked wanted academic skills	Too low to establish	Yes Social worker recommended both ACE and ABE	Retarded, speech impediment	Boy friend	Low skills, retardation Socially retarded

OBSTACLES IN PROGRAM	NON-NATIVE ENGLISH SPEAKER	JOB DESCRIPTIONS	DROPPED DUE TO MOVE?	POSITIVE PLACEMENT? WHAT KIND?	UPON LEAVING A.C.E.					HOURS PARTICIPATED IN PROGRAM I: Instruction Hours C: Counseling Visits TOTAL TIME PARTICIPATED	PROGRESS IN PROGRAM
					WENT TO G.E.D.	WENT TO A.B.E.	WENT TO VOC.ED CLASSES	GOT JOB	OTHER		
Occasional lack in confidence	Eng & Spanish spoken at home	Child care worker	Yes	Yes Felt more confident in doing job because math and reading improved. Moved from part-time to full-time employment					X	I: 150 C: 15 9 months	Was successful in actually improving academic skills and in understanding vocational choices open to her. Seemed to blossom in the program and actively participated in group workshop. She was very aware of her transferable skills. Needed individual instruction ABLE R 9.0 (+1.8) - M 4.4 (+1.4.) Realized she had and had learned skills which were transferable.
Learning disabled	No	Groundskeeper/ Small engine repair	No	Yes Found a mechanical job for himself after leaving ACE				X		I: 52 C: 10 4 months	Was successful in asserting himself about the job he wanted to do and found that job after leaving ACE. Learned his vocational preferences became interested in mechanically oriented reading (only). Was probably then functioning at capacity. The interest job description brought was probably the thing that got him to read as well as he did.
Immature, easily distracted	No	Cook's helper	No	Yes Found temporary part-time employment as kitchen helper in local restaurant. Went to ABE class.		X		X		I: 26 C: 17 4 months	Successful in raising math and reading scores and procuring employment. Seemed positively influenced by interaction in group counseling and attended group regularly. ABLE R 5.2 (+1.8) M 4.8 (+1.1) Learned to set goals and accomplish them.
Lack of vocational focus, erratic attendance (slept a lot) Lack of job awareness	No	Cosemtology	Yes	Yes On to G.E.D. passed 3 tests Entered Jr. College	X					I: 32 C: 7 3 months	Started Jr. College too immature to stay. saw marriage as way out. 10th or 11th grade level on ABLE III M: some progress. Some awareness of academic strengths
Slow leaner Had to be referred out to D.R. to sheltered workshop		None skills to low	Yes						X	I: 34 C: 11 3 months	Retarded - socially immature - needed workshop environment

NAME OF STUDENT	LEFT SCHOOL WHEN / NUMBER OF SCHOOLS ATTENDED	REFERRED FROM	AGE / SEX/ MARITAL STATUS / RACE/ ETHNIC GROUP	HEALTH / POLICE RECORD	EMPLOYMENT STATUS ON ENTRY	ENTRY SKILL LEVEL R: Reading M: Math	PREVIOUSLY ATTENDED ABE CLASSES	PHYSICAL DISABILITIES	SUPPORT SYSTEM	OBSTACLES UPON ENTRY
#12	Jr. High / 4	D.R.	35 / M/Div. / White	Poor / Yes Drunk driving	Needed to reenter labor market after disabling accident on job	ABLE R 9.0 M 7.4	No	Alcohol problem Shoulder injury Hearing impairment	D.R. Counselor	Physical impairments Lack of confidence in doing basic skills stigma of H.S. drop out
#13	3rd grade at 14 yrs of age / Moved every year number unknown	Adult Literacy Program	40 / M/M / Black	Frequent health problems / No	No job. Had been disabled from working as Construction worker	ABLE R 1.0 M 3.6	had been disabled from working his job.	Back injury incurred 5/74 left him unable to work at construction	On Soc.Sec. disability. Was at CPC RWC 1974. Wife	Family health problems. Injury made impossible to work type of job of 12 yrs Content on disability
#14	1955 Rec'd H.S. diploma at adult school--other classes since / Unknown number but many	Self--heard from radio	42 / M/Div. / White	Health problems required lengthy Doctor appt. / No	Had job - was not happy Purchasing Clerk Medical appts interferred with ACE	R 9.0 M	No	Yes, but unknown	Work colleagues job status	Mental block in some areas of reading, lack of confidence in own ability to take adult school reading class
#15	Jr.Yr. / 5	CPC	34 / M/M / Mexican Amer.	Average / No	Had job as landscape gardener wanted improvement	ABLE R 2.1 M 3.8	Was referred out of ABE classes	None	Wife, Occupation of 11 years	Work schedule interferred with instruction
#16	H.S. Grad. / 3	Self-referral from reading Advisor	48 / F/Div. / White	Average / No	Electronics Assembly Inspector Potential layoff made her want more skills	ABLE R 7.8 M 2.1	No	Eyesight beginning to fail	Work self-supporting for 20 yrs	Wanted to concentrate on math--but eyesight failing

OBSTACLES IN PROGRAM	NON-NATIVE ENGLISH SPEAKER	JOB DESCRIPTIONS	DROPPED DUE TO MOVE?	POSITIVE PLACEMENT? WHAT KIND?	UPON LEAVING A.C.E.					HOURS PARTICIPATED IN PROGRAM I: Instruction Hours C: Counseling Visits TOTAL TIME PARTICIPATED	PROGRESS IN PROGRAM
					WENT TO G.E.D.	WENT TO A.B.E.	WENT TO VOC.ED CLASSES	GOT JOB	OTHER		
Legal problems, need for money so left to take job.	No	Household appliance mechanic	No	Yes Passed G.E.D. tests Got job on own	X			X		I: 54 C: 13 3 months	Was self-directed. Was clear on why needed basic skills Related academic work to vocational goals and life. Non threatening atmosphere helpful to confidence building. Finished 4 GED Tests Got job as estimator moving from Informational Interview.
Health problems of wife, family problems, time	No	None didn't want one	No	None		-			X	I: 10 C: 2 3 months	Family emotional and health problems seemed to be an energy drain and a deterrent to concentration on instruction that was not job related--did not have job-oriented goal--lack of incentive due to priority conflicts. Probably none.
Reading level too high for ACE Interest in general reading improvement not job related	No	None	No	Yes Referred to CPC to meet goal of general reading improvement and to build confidence and ability in self to further reading instruction on an adult level		X				I: 10 C: 2 7 months	Gained confidence and was helped to prepare himself for more advanced reading instruction at CPC. None - inappropriate for ACE.
None	Yes	Groundskeeper	No	Referred to reading instruction at Sequoia Adult School reading classes		X			X	I: 166 C: 4 11 months	Student came in with good employment record and definite goals in mind for improvement (promotion in his work--grounds keeper/gardener) kept this goal consistant throughout. ABLE: R 1.5 (-.6) - M 5.5 (+1.7). SRA Reading Test shows 2 grade growth, built basic sight word vocabulary
None	No	Electronic assembler went way beyond in skills	No	Continued in program until ACE ended, transferred to CPC.	X					I: 28 C: 4 3 months	Advanced one grade level in math Individualized setting helped. ABLE: M 8.1(+1.0) Went beyond JD in Math

NAME OF STUDENT	LEFT SCHOOL WHEN / NUMBER OF SCHOOLS ATTENDED	REFERRED FROM	AGE / SEX/ MARITAL STATUS / RACE/ ETHNIC GROUP	HEALTH / POLICE RECORD	EMPLOYMENT STATUS ON ENTRY	ENTRY SKILL LEVEL R: Reading M: Math	PREVIOUSLY ATTENDED ABE CLASSES	PHYSICAL DISABILITIES	SUPPORT SYSTEM	OBSTACLES UPON ENTRY
#17	1942 commercial school in Nicaragra Didn't finish H.S. Attended additional classes, ROP & Adult School English / 5	ROP Clerical Program	51 / F/M / Nicaraguan/ Amer.	Average, Eye soreness / compliant / No	No job, Referred from ROP Clerical	ABLE R 8.4 M 3.7	Had attended English classes. Was too shy to function in group	Back injury incurred 3/76 student out of work	Husband	Limited English composition and spelling ability, low math scores
#18		D.R.	20 / M/Sgl / Black	Average / Yes	No job. Referred from training program	ABLE R 1.0 M 3.8	No		Mother	Resentful behavior. Difficulty working indepently or taking responsibility.
#19	11th Grade	NYC	19 / M/Sep / Black	Average / No	Work experience child care attendant	ABLE R 1.2 M 3.4	Yes, three weeks	None	NYC Counselor, Family	Wanted to be in child care field. Job constraints
#20	11th Grade / 5	ROP Clerical	18 / F/Sgl / Black	Average / No	Difficulty with basic skills in clerical trng. program	ABLE R 6.1 M 3.9	No	None	Mother, Sister	Expressed interest in clerical work but very low in many skills--esp. math. Wanted to get a job & get some money to get out of house but lacked drive.
#21	Soph HS exp. / 5	Army	16 / M/Sgl. / Black	Average / No	Failed Army Test	ABLE R 5.0 M 3.9	No	No	Parents, Army, Uncle, music and auto mechanic skills	No specific jog goal

OBSTACLES IN PROGRAM	NON-NATIVE ENGLISH SPEAKER	JOB DESCRIPTIONS	DROPPED DUE TO MOVE?	POSITIVE PLACEMENT? WHAT KIND?	UPON LEAVING A.C.E. WENT TO G.E.D.	WENT TO A.B.E.	WENT TO VOC.ED CLASSES	GOT JOB	OTHER	HOURS PARTICIPATED IN PROGRAM I: Instruction Hours C: Counseling Visits TOTAL TIME PARTICIPATED	PROGRESS IN PROGRAM
Some in ability to keep appointments due to illness and trips to unemployment Office	Yes	Clerk typist	No	Was continued in program until the end of ACE, then transferred to CPC	X					I: 76 C: 20 7 months	Student continually reevaluated and clarified goals making them more specific, much of this as result of demonstrating competance in instructional areas. Confidence ABLE: M 5.8(+2.1)
Very Sporadic attendance, long, absence, poor communication	No	Janitor	No	Got job				X	X	I: 26 C: 3 5 months	Continued inability to take responsibility emotional immaturity.
Job constraints	No	Child Care Attendant	No	No					X	I: 10 C: 2 1½ months	Found work difficult and discouraging from the beginning
Low energy		Clerk/ Typist	Yes	Entered Data Entry Key Punch program in new location			X			I: 188 C: 33 11 months	Did not seem to be able to look at skills in relation to expressed job goals. Priorities in the area of living away from home seemed to distort the perception. Wanted immediate job. Refused to look seriously at things she had expressed a definite emotional preference for. Did informational interview, participated in group. Became more realistic about work world. Investigated training program.
Chose Mechanics but tested low on very necessary skills	No	Garage	No	Yes, reentered high schcol in a special program which seemed to meet his needs. Got job at hospital				X	X	I: 16 C: 5 2 months	No, for the first time he was treated as mature and he responded maturely.

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#22	H.S.Grad / 4	D.R.	22 / F/Div. / White/ Portuguese American	Average / No	Unable to handle Voc. trng in electronics assembly	ABLE R 4.8 M 3.3	Yes	No	G.A., Brother	Poor math & reading
#23	Jr. year / 5	D.R.	19 / M/Sgl / White	Average / On Probation	Unemployed No work history	ABLE R 5.2 M 3.8 REAL 20/45	No		Mother	Poor verbal skills and learning disability
#24	(Jr.Hi.) (married at 14) / 3	EDD	36 / F/Div. / Nicauraguan	Poor / No	Unemployed on AFDC	ABLE R 6.0 M 4.1	No	No	AFDC	Anxiety re health
#25	1927 4th gr. / 1	Daughter in ACE program	58 / F/Div. / Puerto Rican	Average / No	Was in nurses training program	ABLE R 8.7 M 5.0	No	No	Christian Science staff and institution Employment	Grammar, writing brief reports
#26	1971 Freshman H.S. / 3	Air Force recruiter & CPC	20 / M/Sgl. / White	Excellent / No	Job in deli as stockboy	ABLE R 4.1	No	No	Uncle employment	Low reading skills

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					WENT TO G.E.D.	WENT TO A.B.E.	WENT TO VOC.ED CLASSES	GOT JOB ELSEWHERE			
Learning disabled	English not spoken in home	Electronics Assembler	Yes						X	I: 72 C: 7 5 months	No progress in math R: 7.3.(+2.5)
Attendance	No	Service Station Attendant	Yes	No					X	I: 8 C: 6 20 days	Did not stay long enough with program to evaluate effectiveness of ACE for this student.
Childcare problems, Health	Yes	Sales	No					X	X	I: 18 C: 6 5 months	Progressed during time attended ACE - was motivated based on previous job satisfaction.
Other studies and testing causing time conflicts and energy drain	Yes	Nursing Attendant (Christain Science)	Yes	Job as administrative assistant in residential facility for elderly				X		I: 102 C: 6 8 months	Did not pass tests she wanted help with, but felt she had improved her skills and wanted to continue to progress. Was led to consider new areas (institutions) where skills could be utilized & did successfully, did not work on reading. Due to learning, here feld confident to move on to new area even though she had failed the tests she wanted to pass. She succeeded in the new area. Writing skills improved.
Job problems not major	Yes recent arrival from Palestine	Air Force entry-general skills	Yes family had found more permanent place for him					X		I: 10 C: 6 1 month	Student moved out of state before could become established in a solid program of instruction. Economic/family pressure were the priorities. None known

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#27	Grad '62 special program / 3	ROP	32 / F/Sep. / White	Fair / No	No job had attempted manual labor sporadically	ABLE R 4.1 M 4.1	No	Possible learning disability. Back problems	General Assistance due to back injury Psychiatrist	Had failed clerical/ Sales areas of OICW program. Pressures by Welfare authority. Inability to deal anger.
#28	Jr. Yr. H.S. '62 / 2	D.R.	31 / M/Div. / Black	Average / No	Had job. Both he & employer wanted improvement.	ABLE R 7.1 M 6.1	No	Back problem	Self, D.R. Counselor	
#29	H.S. Dipolma & course at Comm. College	CPC	30 / F/Sep. in div. process / Peruvian/ Amer.	Average / No	In ROP clerical training program	ABLE R 7.5 M 6.6	No	No	AFDC, family Counselor ACE Counselor & Instructional staff	Family problems. Needed English
#30	1949 18 yrs. of age / 3 in Italy	D.R.	45 / F/Div. / Italian /Amer.	Frequent Problems Poor Emotional Health. / No	Unemployed	ABLE R 9.0 M 5.2	No	No	Alimony	Anxiety and insecurity.
#31	H.S. Diploma 1971 Commun. College Classes / 5	D.R.	24 / F/Sgl / White	Excellent / No	Medical Assistant Training.	ABLE R 9.0 M 6.2 Severe problem in spelling	No	Eye Problem	Mother	Spelling & Study Skills

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					WENT TO G.E.D. CLASSES	WENT TO A.B.E. CLASSES	WENT TO VOC.ED	GOT JOB	OTHER		
Financial pressures. Continued pressures of agency giving Financial support. Family stress Pregnancy	No	Cosmetology	Yes	Unknown - had child					X	I: 164 C: 31 9 months	Much progress in reading & math skills with original goal pretty much throughout except when financial pressure made such persistence seem impractical. Was motivated because of interest and some previous practical training/experience in the academic area being studied. Gained much self-confidence in own performance ability. ABLE: R up 2.3 - M up .7
Absence due to change of working hours Unclear goals		Bank Teller/ Supervisor Food Service		ACE ended	X				X	I: 110 C: 9 7 months	Student was making slow progress during the time he attended regularly. ABLE M up .7 - R down .2. Reading scores never reflected his true level. Functioning was much lower became assertive; stopped blaming; took responsibility.
Family	Yes	Ward Clerk	No	Student obtained a clerical job with a Spanish-speaking program.				X		I: 64 C: 8 4 months	Completed Clerical training at R.O.P. & obt. a job. Student had previous job exp. in area of interest & was motivated for that reason. R + 2.5 M + 1.6. Entered R.O.P. completed program.
Anxiety, Family Problems	Yes	Sales Clerk	No	No Counseled out of ACE to try to get work exp. setting					X	I: 8 C: 8	Student had difficulties due to other pressing priorities in her life. Expectations of ACE not clear.
	No	Medical Assistant	No	Involved in training & needed academic skills Yes--went to private tutoring to continue to improve skills.				X	X	I: 32 C: 3 2 months	Student was working in area of highest interest in conjunction with another training program for the same occupational area. Since the ACE program termin., student had to get help elsewhere. While at ACE, however, used facilities, resources to good advantage. Learned to spell. Works now in Clerical job in private sector.

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#32	2nd grade in Mexico / 1	County Vocational Service	48 / M/M / Mexico / Mexican /Ameri	Psychological problems / No	Needed to pass Apprenticeship exam.	ABLE R: 4.2 M: .0	No	Weakness in leg.	Friends, Family Psychiatrist	Family Problems
#33	7th grade 1941 later class at Adult School & CPC - 1976 / 3	Rehab. Assoc. and CPC	53 / M/M / Mexican /Ameri	Frequent Problems / No	Unemployed on disability Private Rehab Assoc was working with him to get him employed & off of disability	ABLE R 7.8 M 8.0 but referred due to no skills	No	Back injury & other health problems	Insurance Liability, Disability, Son	Health
#34	Soph. High School / 5	EDD	17 / F/Sgl / White	Average / No	Wanted to pass GED for Army Entry	ABLE R 6.0 M 3.9 R/EAL 53% True reading ability estimated 3rd or 4th grade level	No	No	None	Family problems lack of stability in any area of his life
#35	After 8th grade, 1952 / One school. no further schooling	D.R.	39 / M/M / White	Frequent Hospitalizations. / No	Auto Mechanics Training Had worked at over 25 jobs in eight yrs	ABLE R 1.8 M 4.5 Reading score is inflated	No	Foot surgery necessary. Temporary disability	Soc. Sec. Disability	

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Pain & Weakness in leg Making a change of Job Goal & Skills Necessary. Resulting in loss of high motivation.	Yes	Meat Cutter/ Electronics Assembler	No	In a training program			X			I; 178 C: 29 14 months	Student, in spite of having changed desired goals, and family problems, & physical problems, participated as actively as he was able to and while learning was slow, student retained what was learned. Could articulate skills. Would verbalize occupational resources. Profited from group counseling
Some pressures to meet expectations of agency giving support to student.	Yes	Real-Estate	No	No Health problems overcame education efforts						I: 40 C: 20 6 months	Student was highly motivated. Has good support & actual help with his studies from his son, and attended regularly, using facilities & resources to good advantage while health problems were in check.
Family Problems	No	Garage Mechanic/ General skills	Yes but reentered	No Loss of contact Moved to be with other divorced parent					X	I: 22 C: 10 4 months	Made progress in reading & math skills for time he was at ACE. Was making rapid progress in reading due to individualized instruction.
Pressures of time & Family Health Problems. Foot surgery Other training interfered	No but limited exposure to English	Auto Mechanic	No	Completed practical training enough to actively look for work	X				X	I: 44 C: 7 10 months	Dropped ACE because of time & energy pressures of taking two courses of study at the same time. Anxiety over economics led to job search priorities. ABLE: R +.4 - M +.7. Could sound out multi syllabic words in counseling groups. Increased ability to articulate his skills in employment interviews. Took responsibility.

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#36	Dropped after 8th grade / 6	High School Attendance Officer	16 / M/Sgl / White	Excellent / yes juvenile	Unemployed dropout	ABLE R 3.1 M 4.2	No	No	AFDC, Mother	Unstable home life Inability to focus on plan of study.
#37	Dropped H.S. in 9th grade. / 3	Self Referral after reading newspaper ad.	61 / F/M / White	Average	Unemployed had worked as housekeeper	Able R 9.0 M 5.0	No	Arthritis	Union Pension--Husband's SSI	None
#38	9th grade / 6	CPC	18 / F/Sgl / White	Average / No	Counter girl Part-time	ABLE R 9.0 M 6.3	No	Epilepsy	Parents, Boyfriend	None
#39	H.S. Diploma	Self	27 / M/M / White	Average / No	Carpentor wanted to advance	ABLE R 4.8 M 4.5	Yes	No	Employment, Wife	None
#40	4th grade 1964 / 1	SMC Voc. Service	26 / M/Sgl / Mexican Amer.	Emotional Problems / No	Unemployed Attended sheltered Workshop	ABLE R 4.4 M 6.0	No	Kidney Ailment prevented working	DR Counseling ACE Staff Friends	Emotional problems made it hard for student to choose level of skills he wished to pursue.
#41	11th grade / 4	CPC/DR	25 / M/Sgl / White	Asthma. Frequent problems / No	Unemployed	ABLE R 9.0 M 3.5	No	Hole in heart	Parents	Very poor learning skills-out of school a lot when a child

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Poor Attendance Family Problems. Delinquency	No	Garage Mechanic	Yes	No					X	I: 18 C: 13 3 months	Had good goal motivation, and progressed well when attending regularly, but family & emotions were unstable to the degree of interferring with concentration on ACE program. First time he had ever been interested in school. Individualized attention was probable cause. Liked work specific skills.
None	No	Child Care/ Companion	No	Began tutoring at CPC-Transferred because of ACE termination.	X		CPC South			I: 22 C: 16 3 months	Improved Math scores-which was the area of concentration. Motivation was high enough for Math improvement that even though desired job group did not require much math, student asked for, and received materials to build math skills. Improved M.+1.3. Learned where she could apply her skills. Confirmed her vocational skills.
Time Problems approaching marriage need for money	No	Cosmetologist /Roofer's apprentice	No		X				X	I: 58 C: 15 7 months	Learning came easy when focused. Academic progress
None	No	Carpentor /Contractor	Yes - to build his home	No					X	I: 70 C: 2 6 months	Moved up one grade level in reading over a sixth month period. Reading +.9
Same as those upon entry.	Yes	Chose food preparation field, but never was able to choose specific job area.	No	Was put on CPC waiting list--referred himself.	X				X	I: 86 C: 16 7 months	Advanced in both reading & math in spite of emotional tensions. ABLE: R +2.5 - M +1. Demonstrated self support skills.
Employment problems. Time conflicts.	No	Clerk/ Typist	Yes. To Placerville with parents	No					X	I: 16 C: 9 3 months	Student progressed when attendance was regular--even with family & Job tensions interferring

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#42	/ 1	Private Rehab. Services	44 / M/M / Black	Poor Due to injury. / No	Disability	too low reading test	No	Back injury with severe pain.	Workmans Comp., Wife	Back injury causing pain-inability to work on tasks or attend sessions.
#43	1974 at 16 H.S. / Also attended CPC & ROP / 5	CPC/ROP	18 / F/Sgl / White	Emotional stress / Juvenile runaway	Clerk in donut shop	ABLE R 0.4 M 3.8	No	No	Job/ Boyfriend	Family Conflicts.
#44	School for blind thru 5th grade / Poplar Center Reading class- / 2	DR	31 / F/Sgl / White	Average / No	Sheltered Workshop	ABLE R 6.0 M 3.8	No	Blindness	SSI Residential facility	Lack of confidence
#45	9th grade- attended additional classes in a technical schcol- / 7	CPC/DR	43 / M/Sep / White	/ No	Worked - not happy with Clerical job	ABLE R 9.0 M 9.0	Yes		Parents	
#46	Age 14 in Cuba / 1	Welfare Dept.	36 / M/M / Cuban Amer. Black	Poor due to disability. / No		ABLE R 8.7		Back injury disability	Disability	Delay of contacts with other responsible agencies

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Same as entry.	No	None, Wanted to see what skills he had	No	No					X	I: 34 C: 4 5 months	Student in too much pain before and after surgery to concentrate on ACE program.
Family stress, Economic & Job problems	No	Grounds keeper Forestry work	Yes Moved out of family home	No					X	I: 30 C: 11 5 months	While student did well on days of attendance, family and economic stress made it impossible to continue ACE
	No	Food Service	No	Plans talks to Voc. Services Counselor about placement					X	I: 10 C: 4 6 months	Improved skills- Met Academic requirements of kitchen helper job description. Learned to solve problems. Learned to complete job application. Became convinced of her skills and therefore became an assertive job seeker.
No clear jog goal	No		Yes-to San Francisco Reason: unknown	Made contact with DR. in SF. to continue to get training.		in SF	Possible Referral to CPC			I: 86 C: 14 5 months	Made steady progress according to ACE tests- Steady progress in math and reading.
Economic Union-Employment issues - Re back injury made consistent attention and attendance difficult.	Yes		No	None					X	I: 30 C: 10 3 months	Problems related to back injury kept.

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#47	7th grade / 2	Dir. of Ed. and training	51 / M/M / Black	Good / No	Employed as a Security Guard Unable to perform under new requirements. Would not go to class room ABE			None	Wife	Transportation Money- needed writing skills immediately.
#48	1975 No diploma / 5	YEP	20 / M/Sgl / Black	Poor / No	YEP Child Care attendant (Work Experience	ABLE R 6.7 M 3.1	Yes	Sickle cell anemia & asthma	Sister	Some unrealistic views of job requirements.
#49	12 yrs. of school & adult classes / 2	Lutheran Church	44 / F/M / Vietnamese.	Average / No	Unemployed	ABLE R 5.8	Too shy for big class		Church-Medical Food Stamps Husband	Difficulty Understanding English
#50	Grad. H.S. / 7	D.R.	20 / F/SGL / White	Excellent / No	Wanted Clerical Class	ABLE R 5.3 M 7.2		Visual-Handicap	Parents	

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Lived in Oakland Job in Millbrae, but was fired from job so discontinued ACE.	No		No	No					X	I: 10 C: 0	Made progress in spelling and initial reading.
Family Problems-Inability to decide on a long term job goal that was satisfactory.	No		No	Referred to CPC. Due to end of ACE-To work toward GED.			Scheduled to attend 2 week work sample evaluation at Easter Seal wksp. in Burlg. Also-referral to DR for more goal setting			I; 158 C: 51 15 months	Improved reading & math skills & became more willing to participate consistently in setting & reaching goals. R +1.1 - M +1.1. Developed real interest in reading.
SER program interrupted ACE studies	Yes	No	No	Obtained job at Bullocks				X		I: 54 C: 5 2 months	Student made progress in reading & math. She found a job, although not the clerical one for which she was planning. Built confidence in self expression. Took to individualized instruction.
None	Yes Italian was first language	Clerical	No	Transferred to CPC-due to termination of ACE.						I: 178 C: 14 9 months	Student was highly motivated, enjoyed work & planned to enter skills class to coincide with academic training at ACE R +.8 - M +1.6

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#51	Grad. H.S. '72 Also attended college classes & OICW / 3	OICW	22 / F/Sgl / Black	Excellent / No	Wanted Keypunch Class entry at OICW	ABLE R 7.0 M 3.1		None		None
#52	Sporadic school attendance during childhood	CPC	46 / M/M / Black	Frequent problems / No	Did not want job wanted to read	Too low to to test	Yes	Arthritic back, leg pains; visual/perceptual problems	SSA, SSI Family	Family Illness & Problems
#53	Left Jr. Yr. of H.S. / 5	ROP	17 / F/Sgl / Black	Average / No	Immature not ready for work	ABLE R 6.7 M 5.4			Mother	Family stress-Especially with alcoholic father Economic stress
#54	Dropped Continuation school	Mills Hospital Speech therapist	24 / M/Sgl / Maltese Amer.	Poor physical condition / No	Formally had worked mechanical jobs Recently disabled.	ABLE R 3.6 M 3.1		Disability (walking, use of hand) due to auto accident-Lack of physical strength-	Own business Family Help	Physical condition & lack of knowledge prognosis-Pain/depression

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Needed Money. Found Employment which conflicted with ACE Also transportation problems.	No	Clerk/ typist	No	Got job				X	I: 28 C: 3 2 months	While student was cooperative & motivated, her desire to be on her own prompted her to obtain employment to meet her financial needs and didn't really get into clerical program with ACE.
Same as upon entry	No	No	No			X			I; 128 C: 4 10 months	Unknown Made slow progress in beginning reading Made good use of program.
Same as upon entry	Yes	Clerk Typist	Moved to S.F Because of family stress but returned	No				X	I: 92 C: 15 10 months	Too many personal problems deterred concentration on job goals which were not of an immediate nature. Repeated opportunities to examine immaturity
Same as upon entry-unable to concentrate on job goal-Physical therapy	Yes	None	No	Referred to ABE at county Voc. Services at the termination of ACE-		X			I: 168 C: 15 13 months	Student trying to deal with immediate problems of pain & disability, family financial pressure, & keeping his own business running with the help of his family. Not able to concentrate on job related skills to any great degree R +1.1 - M +2.3

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